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ABSTRACT

This manual outlines major considerations involved in undertaking screening and assessment of preschool and kindergarten children. It also describes various approaches to screening and assessment and discusses the links between assessment and intervention. After an introductory chapter, discussion focuses on the role of assessment, early childhood screening, early childhood assessment, and assessment for intervention design. Organizational and informational resources for early childhood personnel are listed and cited. (RH)

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The Early Childhood Identification Process:

A Manual for Screening and Assessment

PS 017973

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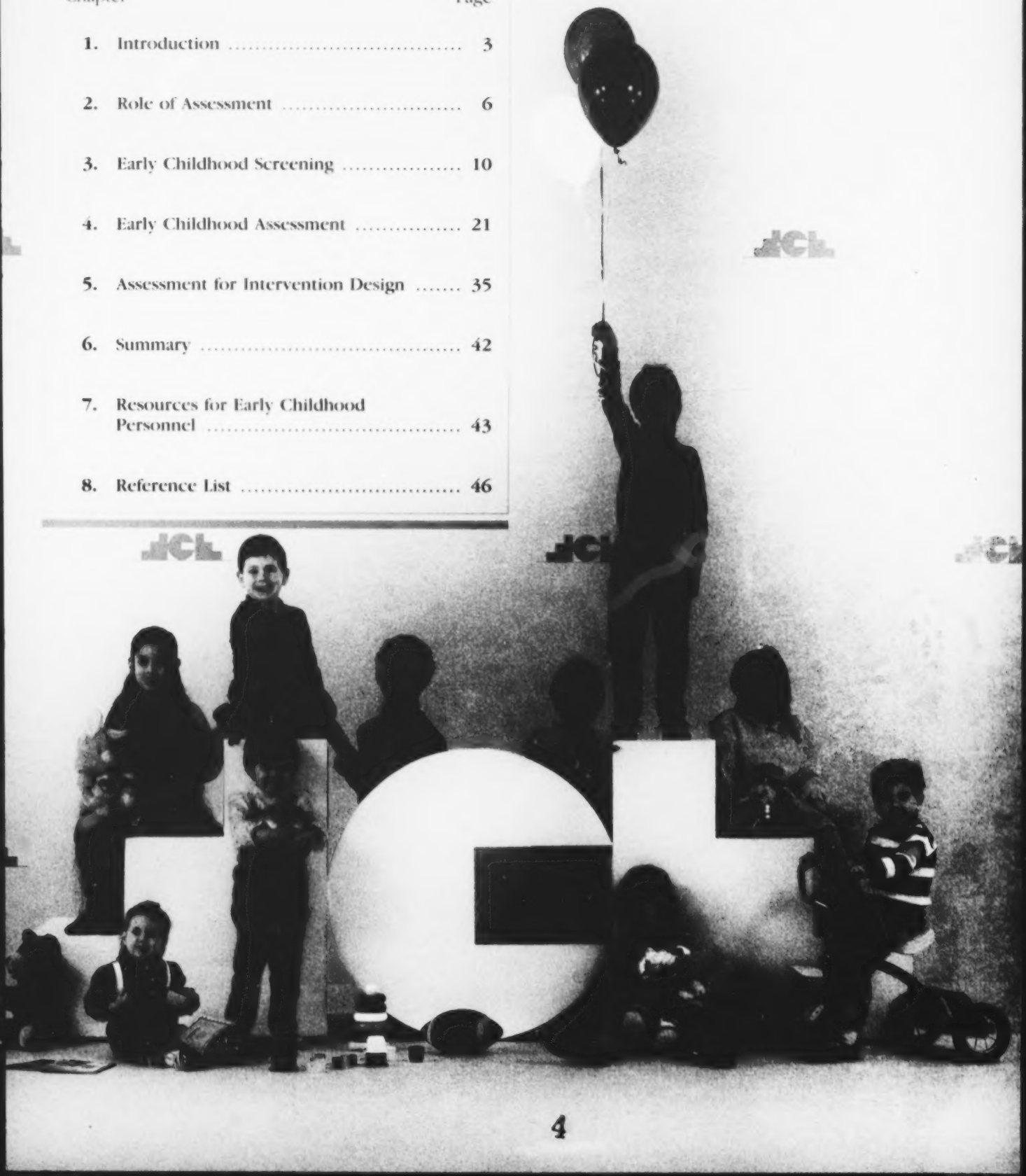

Mom, Dad, Grandma, Grandpa,
Baby, Nurse, Doctor, fireman ...

Chapter 1. Introduction

Purpose

In a report to Superintendent of Public Instruction Franklin B. Walter, the Ohio Commission on Early Childhood Education recommended that Ohio's school districts, in cooperation with other community agencies, provide a comprehensive early identification and referral program for every child prior to or upon entering school. This recommendation was based on documented research showing that the early identification of learning needs and subsequent treatment can have a positive effect on intellectual performance, reduce placement in special education classes, reduce high school dropout rates, and improve the likelihood of adult employment.

To assist school districts in developing and implementing procedures for identifying the individual learning needs of preschool and kindergarten children, including those who later may be identified as handicapped or at risk, the Ohio Department of Education has prepared this document, *The Early Childhood Identification Process: A Manual for Screening and Assessment* (hereinafter shortened to *Manual*).

This *Manual* outlines major considerations involved in undertaking screening and assessment activities for preschool and kindergarten children. It also describes various approaches to screening and assessment and discusses considerations linking assessment to intervention. Additional resources, including lists of screening and assessment instruments, are available from various organizations and agencies (see Chapter 7).

Practices considered appropriate for children of preschool and kindergarten ages, approximately three through six, are described. Specifically, this *Manual* is a comprehensive resource guide for school personnel who are initiating or revising preschool and kindergarten screening and assessment efforts.

Development

The framework and ideas represented in this publication are the result of extensive work, discussion, and, on occasion, intense debate among those persons responsible for its development. Members of the development team were

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Numerous persons contributed ideas as the outline and early drafts of the *Manual* were developed.* Other practitioners, within and outside Ohio, reviewed various drafts and provided valuable feedback.

Overview

The *Manual* is written so that considerable flexibility in the implementation of early childhood identification practices is possible. (When adopting specific identification procedures, school personnel should incorporate only those procedures that are consistent with local school board policies.) This document provides in-depth information regarding two key stages of the identification process: screening and assessment. Table 1 outlines the major steps necessary for the full implementation of these stages. This table also provides a quick index to more thorough discussions of these steps in the remainder of the document.

*Noteworthy contributors who helped in the preliminary stages included Judie Barker, teacher, Cleveland Public Schools; Erva Barton, parent council member, Cuyahoga Special Education Service Center; Sandra Beckett, special education coordinator and chief psychologist, Orange City Schools; Sharon R. Blue, education coordinator, Greater Cleveland Head Start Program; Ann Bowdish, program director of early intervention services, Positive Education Program, Cuyahoga County Board of Education; Susan Gustafson, parent, South Euclid-Lyndhurst City Schools; Gale Harr, director of curriculum, Maple Heights City Schools; Doris Johanson, resource teacher, Achievement Center for Children (formerly Society for Crippled Children); Janet Strother, principal, East Cleveland Developmental Center, Cuyahoga County Board of Mental Retardation and Developmental Disabilities; and Willa Walker, coordinator, Media and Materials Services, Cuyahoga Special Education Service Center. In addition, Ruthann Mahalic, executive secretary, Identification and Program Development Project, and Jean Woolley, technician, Technological and Vocational Services, Cuyahoga Special Education Service Center, provided expert assistance throughout the development process.

Table 1. A Process for Screening and Assessing Preschool Children

Step	Activity	Page
1	**Adopt an early childhood identification policy:** Review and revise, as necessary, the local early childhood identification policy, incorporating current state and federal requirements. Arrange for this policy and a structure for programs to be adopted by the board of education.	6
2	**Develop and adopt a comprehensive service delivery plan:** Develop an overall model or plan for the delivery of educational services to all young children, including those with special needs.	9
3	**Examine early childhood screening approaches:** Review a variety of screening approaches. Select an approach or combination of approaches in light of individual district objectives and the advantages and disadvantages of each approach.	10
4	**Select the target populations:** Consider district characteristics, desired screening outcomes, and available resources to determine what populations will be screened.	10
5	**Consider the issues of a test-based approach to screening:** Address the critical factors associated with test selection. Apply a decision criterion to determine which children have special learning needs.	11
6	**Determine screening follow-up procedures:** Plan what to do about children identified as possibly having special learning needs.	16
7	**Consider limitations to screening:** Identify the numerous limitations of early childhood screening that require professional understanding and caution.	19
8	**Evaluate screening activities:** Periodically review all steps in the screening process that are essential to improvement and long-term success.	19
9	**Select an early childhood assessment approach:** Review several approaches to early childhood assessment. Select a combination of approaches, if deemed more advantageous.	21
10	**Designate and train assessment personnel and an assessment team:** Regard the composition and characteristics of the assessment team as crucial to effective and efficient operation.	22
11	**Consider pertinent test-based assessment issues:** If test-based assessment will be employed, consider such issues as establishing rapport, measuring abilities, and controlling the setting.	23
12	**Plan to involve parents:** Foster activities which will enable parents to be effective partners in the assessment process. Expect them to help provide thorough, accurate assessment data. Ask them to assist with intervention strategies.	27
13	**Determine the essential components of assessment:** Include background information as an assessment component, together with a broad sampling of behavior domains.	28
14	**Identify all relevant sources of data:** Collect data from diverse sources to compile full assessments of young children.	29
15	**If relevant, select early childhood assessment instruments:** When selecting curriculum-based and test-based approaches to assessment, consider factors that influence reliability and validity.	30
16	**Provide appropriate follow-up to assessment:** Communicate results to parents and to other professionals. Link each child to appropriate interventions, as needed.	31
17	**Recognize limitations to early childhood assessment:** Interpret assessment data carefully to recognize shortcomings in test results as predictors of future performance. Also give critical attention to current state and federal requirements for determining special education eligibility and using diagnostic labels.	33
18	**Evaluate the early childhood assessment process:** Enhance the quality of the assessment process through periodic evaluations. Use a systematic approach to evaluate all pertinent aspects of the evaluation model.	34
19	**Conduct assessment for intervention design:** Employ legal, ethical, and professional considerations in conducting assessments for intervention design.	35

Chapter 2. Role of Assessment

Early Childhood Identification Policy

The first step in implementing a process for screening and assessing young children is the review of the district's early childhood identification policy to make certain that current state and federal requirements are reflected in the written policy and the proposed services. This policy (revised if necessary) and a structure for programs should be approved by the board of education.

Assessment Philosophy

In optimal educational environments, children's learning needs are determined through a variety of assessment approaches. Teacher observation, parent description of developmental skills, and curriculum-based assessment are all methods used within early childhood education programs to identify learning needs and to monitor educational progress. These activities permit educators to develop and implement interventions appropriate for each child. This goal is especially critical during the early childhood years, when normal developmental variation is common. These types of assessment are viewed as a basis for enhancing educational activities designed to foster children's development.

The four characteristics listed below are important to a comprehensive assessment policy for the early childhood period.

Ongoing

Assessment should be an ongoing, integral part of a process designed to assist in the identification of mastered and nonmastered skills and to contribute to the structure of instructional programs.

Intervention-Focused

Assessment is viewed as an inherent component of the instructional process. Therefore, assessment activities are presumed to yield information that can be used as a basis for developing interventions to foster children's progress (Paget & Nagle, 1986).

Ecological

Young children are influenced by countless ecological, or environmental, variables. Optimal assessment should incorporate data from diverse settings and other important contexts. Furthermore, the complex interrelationships and resultant effects of ecological factors on children's learning and behavior must be incorporated (Paget & Nagle, 1986).

Curriculum-Based

When young children are participating in educational experiences, the early childhood curriculum can serve as an important means of determining educational needs (Bagnato, Neisworth, & Capone, 1986; Wortham, 1984). Such a curriculum might be founded on a system of developmental progression that can anticipate and facilitate emerging skills (Barnett & Paget, 1988).

Definition of Terms

Three terms used in this document—*screening*, *assessment*, and *evaluation*—are defined as follows:

Screening

Screening is a brief evaluation procedure used with large groups of children for the purpose of identifying those who should be studied further (Boehm & Sandberg, 1982; Cross & Goin, 1977; Keogh & Daley, 1983). Screening procedures are designed to assist in identifying children who may have special learning needs. Efficient and cost-effective techniques might involve the selection of a subgroup of children based on certain demographic characteristics (e.g., socioeconomic status) or behavior (e.g., performance in an early childhood setting or on a screening test).

Children who are identified by screening efforts as possibly having special learning needs should be followed with other procedures to determine whether further assessment and intervention are appropriate. Appropriate follow-up procedures might include teacher and parent consultation, observation, or test-based assessment.

Assessment

Assessment is an in-depth evaluation procedure used with children identified by the screening process as possibly having special learning needs (Boehm & Sandberg, 1982). The purpose of assessment is to determine whether special learning needs exist, to describe the nature and degree of these needs, and to pinpoint appropriate interventions (Keogh & Daley, 1983). Several different approaches to assessment may be employed for the early childhood population, including curriculum-based assessment, teacher and parent consultation, test-based assessment, and observation.

Evaluation

Evaluation is the ongoing appraisal of pupil progress that is incorporated into the intervention program. ***Formative evaluation*** can assist in determining whether objectives have been met and when it is appropriate to modify goals and instructional strategies. ***Summative evaluation*** assists in comparing the child's performance before and after an instructional unit or intervention program (Boehm & Sandberg, 1982; Bricker, 1986; Paget & Nagle, 1986).

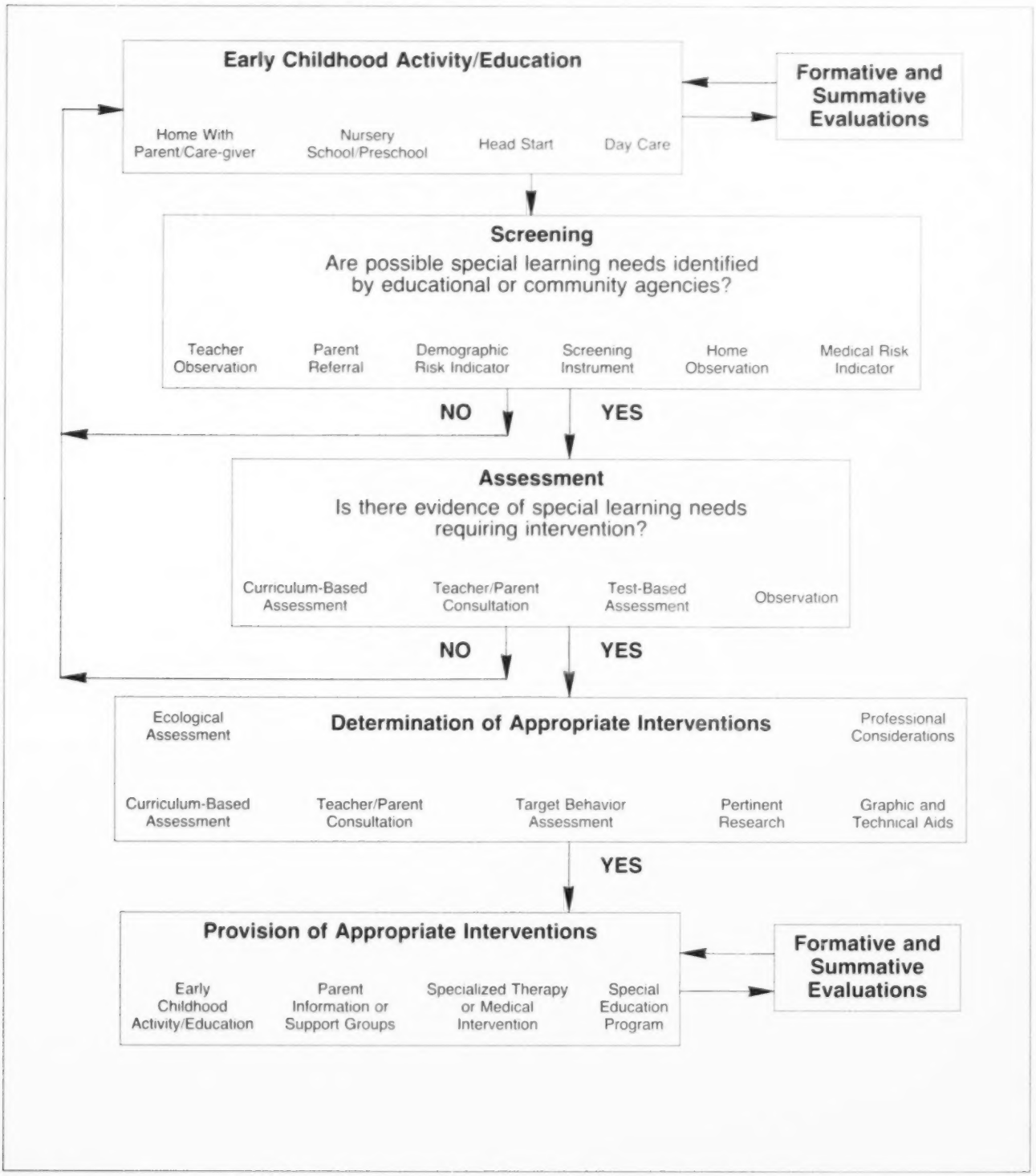
Interrelationships

Figure 1 portrays the relationship of screening, assessment, and evaluation in the early childhood identification process. As this model illustrates, the possibility of special learning needs is identified through one or more screening activities (e.g., teacher observation, demographic risk indicators). Assessment (e.g., parent and teacher consultation, test-based assessment) is conducted with these children to determine the presence or absence of a special learning need requiring intervention.

During further assessment for intervention, numerous factors (e.g., target behavior, pertinent research) are considered when determining appropriate interventions. Such interventions may occur within the existing early childhood setting, or may occur outside that setting (e.g., support groups, specialized therapy, medical intervention).

Formative and summative evaluations serve as the ongoing means for modifying early childhood programs to meet children's needs and to monitor pupil progress.

Figure 1. Early Childhood Identification Process: Relationship of Screening, Assessment, and Evaluation to Intervention



Organizational Development

Decisions regarding specific screening and assessment practices should ideally be made within the context of a comprehensive approach to identifying and treating individual learning needs.

Tips for Success

For best results, the school district needs a well-structured, sequential, systemwide curriculum that incorporates pertinent features relevant to the early childhood population, as well as parent support services at all levels of the educational process.

Other tips for success include

Organizing districtwide staff development activities that emphasize the district's intent to respond positively to individual learning needs

Establishing support mechanisms that facilitate alternative educational delivery systems (e.g., intervention assistance teams)

Developing mechanisms for responding to individual learning needs within the larger context of the educational program

Keeping decisions regarding intervention consistent with research and professional standards

Local Implications

With the above organizational factors in place, the district should be able to develop and adopt a comprehensive model or plan for delivering educational services to all young children, including those with special needs.

Chapter 3. Early Childhood Screening

Rationale

Screening is a brief, efficient way of identifying children who may have special learning needs. Content areas generally considered important to preschool screening are vision, hearing, communication, medical health status, and overall development. At the preschool and kindergarten levels, screening has several positive benefits. *Appropriate uses of early childhood screening* include

- Helping improve education by identifying possible special learning needs and pointing the way to appropriate intervention
- Identifying children who may benefit from early intervention
- Implementing a differentiated referral procedure, and enhancing the cost effectiveness of identification procedures
- Identifying health conditions (e.g. vision or hearing) that may require specialized treatment
- Meeting federal and state requirements for Child Find, a process for identifying suspected handicapped children

On the other hand, some *inappropriate uses of screening* include

- Classifying or categorizing individual children on the basis of screening information only
- Using screening as a "tolerance test" for children's adaptability to new situations
- Excluding children from kindergarten on the basis of screening data

Approaches to Screening

Screening activities include a wide variety of approaches, such as systematic teacher observation, parent referral, and use of a standardized screening test (Barnett & Paget, 1988). Table 2 outlines the advantages and disadvantages of these and other examples of early childhood screening approaches. Any procedure that results in the identification of youngsters as possibly having special learning needs is considered a form of screening. These procedures are often used in a comprehensive early childhood identification program. Children identified as possibly having special learning needs through screening procedures should have further assessment to determine whether intervention is appropriate (Boehm & Sandberg, 1982; Keogh & Daley, 1983; Lichtenstein & Ireton, 1984).

Target Populations

One of the first steps is to identify the target population to be screened. Table 3 lists several potential target populations, together with advantages and disadvantages associated with each selection. The desired outcomes of screening, district characteristics, and available resources will influence the selection of the target population.

Selection of a Screening Approach

Several issues should be considered when selecting an early childhood screening approach. Important variables in such a choice include the target population, screening objectives, and available resources (Keogh & Daley, 1983). Table 4 outlines the relevant issues, related questions, and key considerations for the selection process.

Test-Based Screening Issues

When using a test-based approach to screening, several considerations should be kept in mind. The decision to use a screening test to identify the possibility of special learning needs includes instrument selection responsibilities and contingent decisions.

Table 2. Approaches to Early Childhood Screening

Screening Approaches	Advantages	Disadvantages
Systematic observation by teachers	Occurs within the context of the early childhood environment Is cost effective Requires no special materials or equipment Relates to intervention plan	Is impossible for children not enrolled in early childhood programs
Identification and referral by one or both parents	Uses an ecological, or environmental, approach Is cost effective Relates to intervention plan	Requires parent awareness
Selection based on demographic characteristics or risk factors	Is cost effective	Excludes children without targeted characteristics May identify a high number of false alarms
Use of formal screening instruments	Permits identification of some critical special needs (e.g., specific medical problem)	Is expensive May be unreliable Is not directly related to intervention plan May identify too many or too few children whose environments are precarious or exemplary
Home observation	Uses an ecological approach Relates to intervention plan Helps identify children who may be missed through other strategies	Is expensive Is time consuming
Medical risk indicators	Helps identify children at an early age	May not identify children whose problems are not directly related to medical factors In isolation, may limit intervention plan
Combination of strategies	Facilitates an ecological approach Enhances reliability and validity	Is expensive Is time consuming

Table 3. Target Populations for Early Childhood Screening

Target Population	Advantages	Disadvantages
Mass screening of total population, birth thru 5 years	Puts school district in contact with entire population of preschoolers Can be done at one central location or at neighborhood sites	Is costly Requires extensive publicity May result in many false alarms
Screening by specific ages (e.g., birth to 18 months; 3 and 4 years; kindergarten age)	Is systematic Offers opportunities for follow-up of infants identified as high-risk May be targeted for specific purpose (e.g., hearing, amblyopia)	Overlooks children above and below designated ages, if only one age group is targeted Narrows the focus
Screening by geographic region or neighborhood	Makes any type of screening workable for a large district	Requires significant commitment of time and personnel Necessitates transportation of materials and equipment
Screening of agency referrals	Limits number of children screened	Relies on another agency's prescreening evaluation Overlooks some high-risk children due to lack of agency involvement
Screening of children from low-income families	May allow for enrichment opportunities aimed at prevention of subsequent educational failure	Requires economic information about families Overlooks children from other income groups who may be at risk May convey stigma
Cooperative screening with health agency by age (e.g., health facility screens birth thru 2; school screens 3-5)	May facilitate cooperative relationships between school district and health agency Permits cost sharing	Relies on quality of interagency cooperation
Screening of parent referrals	Facilitates good home-school communication Reduces anxiety for both parent and child	Requires parent awareness Restricts population to be screened
Kindergarten screening	Provides information for curriculum planning	By waiting until kindergarten to screen, prior intervention oppportunities for high-risk children are lost
Screening of teacher referrals	Increases cost effectiveness Serves as a mechanism for teacher inservice Provides opportunities for teacher consultation	Restricts population to be screened to children in educational settings

Table 4. Issues in Selecting an Early Childhood Screening Approach

Issues	Questions	Considerations
Purpose	What are the screening objectives? What follow-up is planned for identified children?	Approaches should be linked directly to the desired purpose of the screening, as well as to a procedure for follow-up. Screening should lead to parent and teacher consultation, observation, test-based assessment, or referrals to appropriate specialists, where indicated.
Personnel	Who should be involved? Are there sufficient staff? Will volunteers be used? Do professionals or volunteers have special training needs?	Specific training of teachers and parents is critical for efficient screening that relies on their observations. When formal screening tests are employed, volunteers (e.g., parents or PTA members) may be used effectively if appropriately trained. Cost effectiveness and confidentiality should be considered. Screening personnel should be familiar with the variable behaviors of young children and should have expertise in maximizing their performance.
Finances	What are the projected costs for equipment, personnel, and follow-up? Is the recommended procedure cost effective?	Screening instrument choices, personnel, and type of screening approach all affect total cost. In some settings, selection by demographic characteristics is the most effective and cost-efficient screening approach available. In determining the cost effectiveness of a given approach, consider both the purpose of the screening and long-term data about its validity.
Resources	What resources are available within the school setting? What resources outside the school setting should be accessed to assist with screening?	Special education regional resource centers may be able to assist in planning and implementing screening programs, as well as determining long-term validity. Other potential sources of help might include public health departments, colleges and universities, health and mental health clinics, hearing and speech clinics, and professional associations. Some community agencies regularly engage in early childhood screening activities, and efforts should be made to maximize collaboration and minimize duplication of efforts.
Facility	What are the space and facility requirements?	If a formal screening instrument will be used, the facility should be compatible with the screening procedure and instrument adopted. The environment should maximize young children's performance and be comfortable for parents. Accessibility via public transportation, if appropriate, and adequate parking space should be considered.
Notification	How will the screening activity be publicized? How will target groups be notified? What expectations will be conveyed to parents?	Parents whose children are enrolled in early childhood programs should be informed that systematic observation by teachers will be used as a means of screening for special learning needs. Notification materials describing screening efforts should be sensitive to any references to "handicaps," and should include information about the kinds of questions screening results can and cannot answer. Possible screening outcomes should be described so that parents are prepared for screening follow-up.
Parent Involvement	How will parents' observations be incorporated into screening approaches? If formal screening tests are used, will the parent be accessible to the child during this process if necessary?	If properly oriented, identification and referral by parents are valuable screening approaches. During the screening process, some young children may be frightened, and accessibility to the parent can be reassuring. Schedules can be arranged so that a parent interview is conducted while the child is screened. Or parents may view films about child development, talk with specialists, or hear presentations about enrichment activities.

Instrument Selection

The selection of a screening instrument requires a thoughtful match between the school district's objectives for screening and the characteristics of the screening devices. The following factors will influence the choice of a screening instrument.

Purpose. The purpose for screening is critical to the test selection process. For example, if district personnel plan to screen entering kindergartners to

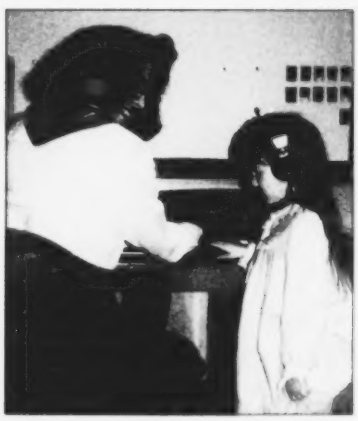
identify later reading problems, they should select a test designed and validated for this purpose. Little is gained by selecting a screening instrument that stresses some skill (e.g., design copying) not directly related to the behavior in question. Prediction of academic difficulty may be done most effectively by a preacademic readiness measure, whereas screening for behavior problems may be accomplished most successfully via a teacher or parent checklist.

Administration time. Screening is, by definition, a brief process, and screening techniques should reflect this characteristic. Remember, screening is designed to identify the possibility of special learning needs only, and should be followed, for identified children, with further procedures such as observation, parent and teacher consultation, or test-based assessment. Generally, screening should require no more than 15 to 20 minutes (Boehm & Sandberg, 1982; Meisels, 1985).

Standardization and norming. School personnel should critically evaluate the manuals for the screening instruments under consideration to determine whether the normative population used for standardization matches the population to be screened (Miller & Sprong, 1986), especially on such factors as ethnic background, socioeconomic levels, geographic region, and age. While districts may find locally developed screening instruments appealing, they are rarely of adequate technical quality (Meisels, 1985).

Reliability and validity. School personnel need to be familiar with the levels of reliability and validity that have been reported for various screening instruments, and how these factors may influence screening outcomes (Meisels, 1987). For example, screening devices that have been validated against nonverbal criterion measures may not represent the best predictors of academic difficulty.

Personnel. The number and type of personnel available for screening may limit the instruments that can be used appropriately (Lerner, Mardell-Czudnowski, & Goldenberg, 1981). Some screening tools specify that only trained or certified personnel administer them. Other screening processes require the involvement of a team of individuals. Since screening results should be as accurate as possible, screening personnel should be knowledgeable about young children and be able to facilitate their best performance.



Facility. Certain types of screening require a soundproof room, separate workstations for children, or a quiet place for parent interviews. When selecting a screening instrument, school personnel need to consider any constraints in the screening facility.

Age of children. Many screening instruments are designed and standardized for children of certain ages. The age range of the measure must match the age of the population to be screened.

Group versus individual administration. Some screening procedures are designed for group administration, while others require interaction with individual children. Although group administration may appear to be very efficient, younger children may not be able to manage such a procedure.

- **Appeal for children.** Screening activities ideally should be pleasant experiences for children. In many cases, this is the first school contact for children and their parents. Therefore, the procedures should foster positive feelings.

- **Credibility for parents.** Screening instruments should demonstrate "face validity" so that parents can recognize the relationship between the screening activity and the stated purpose of screening.

- **Cost.** Screening instruments vary considerably in cost, with no direct relationship between price and quality. Purchasers should beware of "hidden costs," such as individual record forms, training requirements, or essential computer scoring.

- **Ease of administration.** Some instruments necessitate an elaborate setup or involve difficult administrative procedures. These factors can lower the reliability of derived information (Lerner et al., 1981).

Decision Frameworks

Inherent in any screening procedure is the application of a decision criterion to delineate children who may have special learning needs from those who do not. When implementing a screening decision, three considerations are important.

- First, when screening for conditions that have base rates (frequency of occurrence in the population) that are either very high or very low, the probability of error is higher and the cost of screening increases. For example, if a large proportion (70 to 80 percent) of an early childhood population displays language delays, the most reliable and cost-effective decision would be to assume all children in that population have such needs and to incorporate appropriate interventions into the curriculum.

- Second, different approaches to screening may yield results that vary considerably. It would be erroneous to assume that any screening decision is a highly reliable representation. Screening decisions are probability statements, and different procedures produce different outcomes.

- Third, ongoing decisions within the context of the early childhood environment are critical, since failure to make adequate progress in this setting is the most important criterion.

Two types of errors may occur as a result of establishing a decision criterion: false alarms and misses. They are defined as follows:

- **False alarms.** Children are identified as possibly having special learning needs, even though subsequent assessment or experience in the educational setting does not confirm this initial identification.

- **Misses.** Children are not identified as having special learning needs, even though a problem is subsequently identified.

False alarms or misses may occur as a result of the decision criterion, which may be too high or too low, or the screening technique, which may not adequately measure the behavior in question.

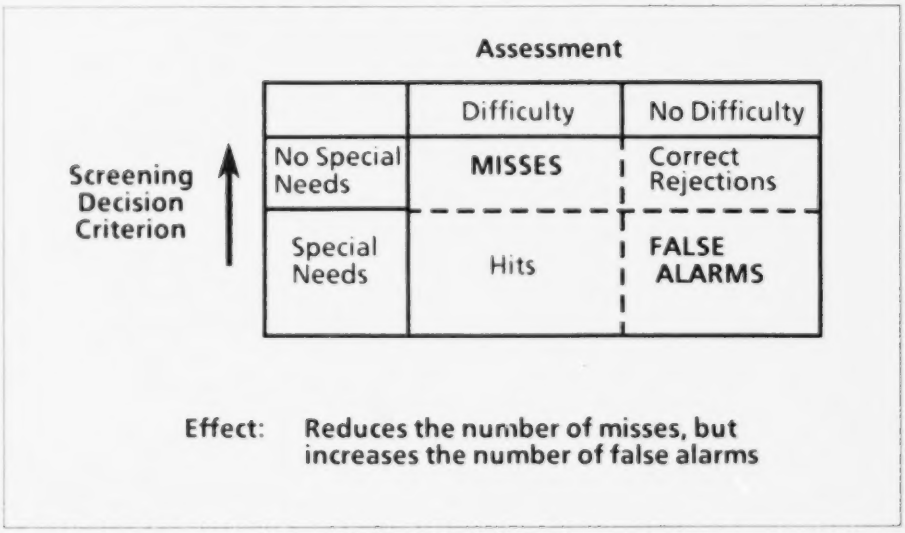
As Figure 2 demonstrates, a high decision criterion (i.e., a characteristic or behavior closer to average) increases the probability of correctly identifying children who have special learning needs (i.e., those for whom subsequent assessment or programming confirms this decision), but at the cost of misidentifying more children who do not have special learning needs (*false alarms*). This is a potentially expensive decision, since greater numbers of children are referred for assessment. The advantage of a high decision criterion, however, is that few children who require special interventions go unidentified (*misses*).

The reverse situation occurs with a low decision criterion (i.e., a low incidence characteristic or behavior) by which increasing numbers of children, both those who have special learning needs and those who do not, would be categorized on the basis of the screening instrument as within normal limits. In contrast to the situation portrayed in Figure 2, this would result in fewer children being referred for assessment. However, as illustrated in Figure 3, the number of misses would increase.

Follow-up to Screening

Theoretically, early childhood screening is designed to categorize children into two groups: those who may have special learning needs requiring intervention, and those not considered to have such needs. Occasionally, however, children cannot be categorized into one of these groups on the basis of the screening procedure. Therefore, school districts must have systematic follow-up procedures in place for all children (Lichtenstein & Ireton, 1984). These procedures should be an important component of a well-structured, systemwide curriculum that provides for the learning needs of all children.

Figure 2. High Decision Criterion as a Screening Measure



Children With Potential Special Needs

Children identified as possibly having special learning needs on the basis of a screening procedure must be provided appropriate assessment for the purpose of thoroughly describing these needs and developing interventions. Screening procedures for specific physical conditions (e.g., hearing or vision) may entail referral to medical specialists. In cases where there is concern about a specific behavior, in-depth teacher or parent consultation may need to be conducted to assess the behavior and develop an intervention plan. Subsequent sections of this *Manual* outline procedures for designing and implementing assessments for young children.

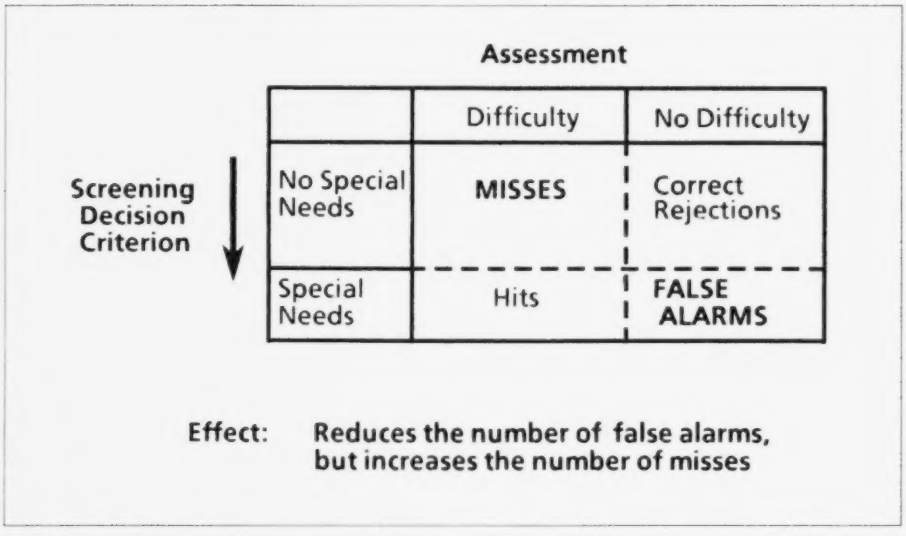
When a formal instrument identifies positive results (i.e., the possibility of a special learning need), parents should be notified in a timely manner. Personal contact is recommended so that questions can be answered and follow-up assessment can be arranged. When communicating positive screening results to parents, school personnel should emphasize the tentative nature of the screening decision (Lerner et al., 1981). Some children identified as having special learning needs by screening activities are *not* found to require special intervention during subsequent assessment.

Remember, positive screening results suggest only the *possibility* of special learning needs. Children should never be identified as handicapped or in need of specialized interventions on the basis of screening results alone (Boehm & Sandberg, 1982; Meisels, 1985). Finally, it is not appropriate to exclude children from some program or service (e.g., kindergarten) as a result of positive screening data.

Children With No Potential Special Needs

Appropriate follow-up to screening is essential. The parents of each child who is screened as having no potential special learning needs must be contacted. This information may be conveyed in a brief face-to-face meeting, a telephone

Figure 3. Low Decision Criterion as a Screening Measure



call, or a letter written in the parent's native language. It is important not to overstate the findings from screening (e.g., by interpreting the results as diagnostic information).

Remember, a child not suggested to have special learning needs by screening activities *may* require some interventions later. Parents should understand that screening is an integral component of educational programs, and that special learning needs may be identified later. A sample letter to parents describing negative screening results (i.e., normal development) follows.

Children With Undetermined Needs

Theoretically, screening is designed to result in a dichotomous decision, either the possibility of special learning needs or no evidence of such needs. Sometimes, however, children's performance is such that they do not clearly fall in either group. In the case of early childhood screening, this

Figure 4. Sample Letter Describing Normal Development

Smith Elementary School
Alpha-Beta School District
First Street, Anytown, Ohio 99999

April 10, 19___

Dear Mr. and Mrs. Q:

Your child, Mary, recently participated in the Early Childhood Screening Program at Smith Elementary School. Each child was checked for vision, hearing, language reasoning, and motor skills.

You will be pleased to learn that results of this screening indicated that Mary appears to be developing normally in all areas at this time.

As you know, a child's development is uneven. Sometimes problems develop even when there was no earlier evidence of difficulty. If you have any concerns about Mary's development at a later time, please talk to her teacher or another appropriate specialist.

If you have any questions about this information, please write or call Mr. Jason Brown, screening coordinator, at 876-5432.

Sincerely,

Cynthia Moller
Principal

undetermined category may be quite large, and represents what some experts refer to as *high-risk* or *vulnerable* children.

For such youngsters, an additional screening approach (e.g., instrument screening plus parent or teacher consultation; home observation combined with demographic screening) may help confirm whether special learning needs are present. Another approach is to conduct a second screening session after a brief interval (Meisels, 1985). School personnel should, however, be aware that one limitation to using an instrument approach in both screening sessions is the tendency for low-performing children to score higher on a second attempt due to a statistical artifact known as "regression toward the mean."

Limitations to Screening

A number of challenges are inherent in early childhood screening. A major issue is that the ever-changing and uneven development of children makes predictions extemely difficult. Such predictions are further complicated by the interactive effects of development with environmental experiences. Other limitations to early childhood screening occur when screening is poorly conceived or screening results are used inappropriately (Keogh & Daley, 1983; Lerner et al., 1981; Meisels, 1987). The most common problems associated with early childhood screening programs follow:

Considering screening activities as "tests," rather than as a process involving a full range of approaches

Isolating screening activities from other components of a comprehensive educational delivery system

Using a locally developed screening instrument that is of poor technical quality

Using a screening facility or approach that is confusing to young children and not conducive to obtaining their best performance

Communicating insufficiently or ineffectively with parents before, during, and after screening efforts

Using screening personnel who have not had experience with young children and do not know how to facilitate their best performance

Interpreting screening data as diagnostic information for use in placement decisions

Evaluation of Screening Activities

Comprehensive evaluation of the screening program is necessary for systematic feedback leading to change and improvement. The following procedures might be used to evaluate a district's screening program.

Parents can be interviewed or asked to complete questionnaires to help evaluate such factors as the receptivity and sensitivity of the staff, description of the screening effort, and adequate explanation of screening results.

Screening personnel involved in formal instrument screening approaches can be asked to respond via a written form or verbal discussion to answer questions about scheduling of children, facilities, and transferal of information.

Longitudinal follow-up of students via such criteria as achievement and social competency measures can provide predictive validation for the screening procedure.

Chapter 4. Early Childhood Assessment

Rationale

The purposes of assessment for young children include

Identifying those children who have special learning needs (Lerner et al., 1981)

Hypothesizing the cause(s) of the identified problem, where appropriate (Lerner et al., 1981)

Describing individual strengths and weaknesses, particularly as these relate to programming (Meisels, 1985)

Developing appropriate recommendations for interventions tailored to each child's individual needs (Bricker, 1986)

Facilitating delivery of early intervention services, thereby enhancing eventual adjustment (Bailey & Bricker, 1984; Guralnick & Bricker, 1987; White, 1985-86)

Pointing toward intervention that minimizes the need for more costly and more restrictive special education services (Garland, Stone, Swanson, & Woodruff, 1981; Lazar & Darlington, 1978)

Approaches to Assessment

Assessment is an in-depth evaluation procedure used to examine and describe special learning needs in order to plan appropriate intervention. Assessment may occur as a result of a direct referral from parent, teacher, physician, or other professional, or assessment may be used to explore further the need for special interventions for children identified via screening programs.

Figure 1 on page 8 illustrates how assessment relates to other components of the early childhood identification process. Furthermore, this entire *Manual* is predicated on the assumption that screening and assessment are integral components of a comprehensive program of early childhood education, and, as a result, prereferral interventions would have been implemented prior to the initiation of assessment activities.

Four approaches to early childhood assessment are described below. A combination of approaches takes into account the ecological and child-centered perspectives critical for young children. Comprehensive early childhood programs frequently incorporate more than one or all of these approaches.

Curriculum-Based Assessment

The early childhood curriculum can be used as the basis for fully exploring children's special learning needs. As an assessment approach, the curriculum represents a series of skills or behaviors to be mastered, and the child's performance in the early childhood environment determines learning objectives (Deno, 1986; Howell, 1986). A curriculum-based approach is valuable because it affords a direct instructional link between assessment and intervention (Bagnato et al., 1986).

Teacher and Parent Consultation

Teachers and parents can assist with a thorough evaluation of children's special needs. However, a consultative approach requires specific interviewing skills to identify the special learning needs, generate problem resolution, and plan intervention activities (Curtis & Meyers, 1985). A collaborative approach to problem solving can be very helpful in fostering broad ownership of the "problem" and in establishing a commitment to problem resolution.

Test-Based Assessment

For test-based assessment, data derived from standardized tests are used to describe children's special learning needs. This approach for the early childhood population requires some specific considerations, which will be described in subsequent sections of this *Manual*.

Observation

Observation of young children's behavior is often incorporated into curriculum-based, consultative, and test-based approaches to assessment. Observation can also be useful as a separate assessment strategy. As such, the procedure focuses primarily on observable behavior of children. Through various observation systems (e.g., real time, frequency, duration), this approach helps to identify areas requiring further attention and to develop context-specific interventions. Periodic observations provide an integrated and cost-effective procedure for monitoring pupil progress relative to specific interventions.

Personnel

Persons who assess young children must be skillful and well trained in the particular approaches to the evaluation process.

Qualities of Assessment Personnel

Regardless of the specific approach to assessment, early childhood assessment personnel must possess some special characteristics (Boehm & Sandberg, 1982; Paget & Nagle, 1986; Rogers, 1986; Schakel, 1986). These include

Knowledge of intervention design for young children within home and school contexts

Knowledge of, and experience with, young children

A developmental orientation to behavioral observation

Technically proficient observation skills

Empathy and sensitivity in working with parents

Familiarity with early childhood curricula

Knowledge and experience in teacher and parent consultation

Flexibility in planning and implementing assessment strategies

Facility with preschool assessment techniques and instruments

Ability to communicate openly and professionally with specialists and parents

Composition of the Assessment Team

Regardless of the assessment approach, the preferred model for assessing young children is a team of persons representing diverse disciplines and orientations, because this model

- Provides a mechanism for validating hypotheses across several data sources and settings
- Facilitates problem identification and generation of approaches to intervention
- Involves professionals from various agencies and medical settings who provide various aspects of total care for young children and their families
- Includes individuals who are sensitive to, and have knowledge about, the culture of the child and the family
- Provides a comprehensive description of the child's strengths and weaknesses that are relevant for planning interventions
- Analyzes strengths and weaknesses needed to facilitate the development of interventions

School administrators may wish to identify a core team of persons representing various disciplines to implement assessment and intervention planning for young children. The suggested composition of the core team, as illustrated in Figure 5, includes three professional disciplines assumed to be primary: school psychology, speech and language therapy, and early childhood education.

A core team with consistent membership enhances the effectiveness of the assessments and interventions in this highly specialized area, and provides continuity for families during the early childhood years. One member of the core team may serve as case coordinator or case follower for each child. The case coordinator compiles all data pertaining to the child, and is the contact person for parents and other personnel regarding the case.

This model also includes a "support team." Support team members, who may be school district employees or representatives from other agencies, are expected to contribute to the diagnosis and planning for individual cases. The relationship between the core team and the support team is illustrated in Figure 5. The role of the parent is inherent in the assessment process, and interlocks with the roles of both core team and support team members (Sexton, Miller, & Murdock, 1984).

Test-Based Assessment Issues

Test-based assessment of very young children presents a special set of circumstances, sometimes quite different from those confronted during assessment of school-aged youngsters. Important issues specific to test-based assessment for preschool- and kindergarten-aged children include establishing rapport, measuring abilities, and controlling the setting.

Establishing Rapport

Young children frequently exhibit uneasiness or anxiety about interacting with an unfamiliar adult in a testing situation. Preschoolers sometimes display

extreme behaviors (e.g., crying, refusing to talk) that, while perhaps considered inappropriate for older children, are typical for this population. To maximize opportunities for establishing rapport, examiners should

Use non-medical titles and dress. Many young children become alarmed if the examiner is introduced as "Doctor Smith," or if white jackets are worn, since titles or uniforms may evoke memories of uncomfortable visits to hospitals or doctors' offices. Where feasible, examiners should drop the doctor title and avoid white smocks or other associations with medical settings.

Be confident and in control. Some young children become resistant or silly if the examiner is not clearly in charge (Paget, 1983; Sattler, 1988). Maintenance of control requires limit-setting in a friendly, but firm, manner. Examiners who feel uneasy interacting with young children will be at a disadvantage in the test setting, and should gain experience in informal settings before attempting assessment activities.

Individualize the degree of verbal communication. Some young children are quiet and pensive when entering a testing situation. Others are outgoing and talkative. The examiner should take a cue from the child, and

Figure 5. Early Childhood Assessment Team

respond in kind. The degree of verbal communication can also help direct the examiner to initial tasks. That is, it may be beneficial to introduce nonverbal activities (e.g., blocks, puzzles) with the quiet youngster, and conversation or word games with the talkative child.

Use language that is appropriate for young children. Examiners must modify the complexity of their verbal communication to maximize children's performance (Paget, 1983). This may involve using different directions so that a youngster is not penalized for not understanding a certain word or phrase (e.g., "point to," "show me," and "put your finger on" all mean the same thing, but a youngster may not be familiar with all). When employing standardized instruments and procedures, children should be taught basic concepts necessary to comprehend the task prior to the formal assessment (Kaufman, 1978). Examiners should also avoid using language that is too complex. In general, two or three short, active sentences are better than one long, complex sentence.

Permit an appropriate length of time for warm-up. Attention spans of young children are relatively short, and too much time in warm-up can wear a child out for the formal assessment (Paget, 1983). However, young children require some time to get used to interacting with the examiner, and informal activities with books or toys can be used for this purpose. The examiner should be attuned to the child, and move into formal activities as soon as it appears the child is comfortable.

Be sensitive to changes in mood. Variations in mood in young children sometimes occur rapidly and dramatically. A youngster may change from a smiling, engaged demeanor one minute to tears the next. The pace of testing, and particularly the nature of the tasks presented, can be an important factor in avoiding such crises.

Plan multiple test sessions. Frequently, several sessions to conduct testing are desirable. Such a plan not only maximizes the child's performance potential by responding to a shorter attention span, but also permits opportunities to observe the child at different times, and, if arranged, in different settings.

Measuring Abilities

The kinds of behaviors young children exhibit are in many cases different from those assessed in school-aged populations. To obtain critical information in light of these special circumstances, examiners should

Have knowledge of developmentally relevant behaviors. Early childhood specialists should be aware of what behaviors are considered typical of children of various ages. Young, nonverbal children exhibit a number of behaviors that can be assessed, but they must be assessed in special ways. No child is "untestable," but some children present special challenges to examiners in identifying those behaviors that can be measured or described (Alpern, 1967). If a child appears "untestable" via a test-based approach, consider the use of a different assessment strategy (e.g., observation, teacher and parent consultation). In some cases, interventions may be introduced prior to formal testing.

Rely on multiple sources of information. An optimal assessment measures many different areas of behavior in many different ways (Paget &

Nagle, 1986). Test-based assessments alone may not provide a typical sampling of behavior. Important information can be obtained from the child's parent or teacher via interviews or rating scales. Observation in a variety of settings may provide valuable data as well. Hence, a combination of assessment approaches is recommended.

Be familiar with preschool test instruments and procedures. Knowing what tools and techniques are available for use with very young children is important for obtaining a comprehensive assessment (Boehm & Sandberg, 1982). Sometimes young children are reported to be "untestable" when examiners attempt to rely exclusively on test-based assessment approaches or use instruments that are inappropriate for the individual (Alpern, 1967).

This *Manual* emphasizes the inclusion of a broad range of assessment approaches including observation, curriculum-based assessment, and consultation with teachers and parents. Annotated lists of early childhood assessment instruments are available from a variety of agencies and organizations, such as those listed in Chapter 7. Even so, users must evaluate tests and other instruments carefully and make selections on the basis of recommended parameters (e.g., *Standards for Educational and Psychological Testing*, 1985).

Controlling the Setting

Characteristics of the assessment setting can be important to obtaining optimal performances from children in a manner useful for intervention planning. Four aspects of the assessment environment that should be considered are discussed below.

Familiar versus unfamiliar setting. Some young children perform best in a familiar environment, such as the home or preschool setting. Other children may view familiar settings as signaling time for play, and may not display appropriate levels of concentration. An optimal assessment might provide opportunities for obtaining information in both familiar and unfamiliar settings (Paget & Nagle, 1986). Most experts agree that a natural setting is preferred for intervention design.

Minimally distractive environment. Tested-based assessment should be conducted in an environment with minimal distractions (Paget, 1983). Potential distractions for preschoolers include jewelry worn by the examiner, puppets or toys on an office shelf, or a typewriter or computer. Ideally, the physical surroundings should be comfortable but somewhat bland. Efforts also should be made to minimize auditory distractions such as ringing telephones, conversations in a nearby office, and sounds of children on the playground.

Attention also should be given to the nature of the waiting area. If there is a delay between the child's arrival and the assessment, experiences during the waiting time may influence the child's reaction to formal testing activities.

Familiar versus unfamiliar adults. Experts differ in their opinions about having a familiar adult present during test-based assessment. Some view the presence of a parent or familiar teacher as distracting to the child, and recommend assessing the youngster without a familiar adult whenever

possible (Paget, 1983). Other experts feel having a parent or teacher present can put a child at ease and maximize the child's performance (Boehm & Sandberg, 1982).

When deciding whether to involve familiar adults in the test-based assessment, examiners may want to consider the child's experience in test-like settings, the degree of separation problems evidenced, and any special circumstances (e.g., unique communication techniques). The most comprehensive test-based assessment may provide opportunities for testing with and without familiar adults present. When the teacher or parent does participate in the formal assessment, it is essential that the nature of standardized procedures be explained thoroughly so that items are not altered by the familiar adult's words or actions (Paget, 1983).

Equipment and materials. Test equipment and materials, such as furniture, play equipment, and manipulatives, should be appropriate for the size and characteristic features of young children (Paget, 1983). For formal, tabletop assessment, the furniture must be appropriate in size. The chair must permit the child's feet to rest flat on the floor or other support, and the table must be of appropriate height in relation to the chair.

Test materials should be clean and in good repair. Manipulatives should be organized so that they are easily accessible, but out of sight. For many preschoolers, this means out of reach! Examiners who are familiar with testing instruments can anticipate tasks and move smoothly from one activity to another, thus maximizing the child's optimal performance.

Parents as Partners

In assessing young children, it is critical to recognize that parents are inherently involved in this process. Examiners who are sensitive to the importance of parent involvement and respond appropriately can help foster long-term parent commitment to early assessment and intervention activities (Rogers, 1986). To maximize positive parent involvement, examiners should follow the steps listed below.

Explain the Assessment Process

For some parents, assessment can be a confusing, threatening activity. While this may be especially true of test-based assessment, parent anxiety may occur as a result of other approaches to assessment as well. Providing information about the assessment process before it occurs can help make it appear more manageable and reduce anxiety (Boehm & Sandberg, 1982).

Parents should be told *why* the assessment is needed, *who* will conduct the assessment, *where* and *when* it will occur, *what kinds* of instruments or procedures will be used, and *expected outcomes* of the assessment. While preassessment activities are implemented for children of all ages, parents need to know that young children may require a more detailed, personalized approach than is sometimes employed for older children (Rogers, 1986).

Consider Parents as Resources

Parents should be considered partners in the assessment of young children. They can provide important information regarding developmental and medical histories, and describe present levels of functioning. For example, evidence suggests that mothers' estimates of their children's functioning

correlate with data derived from direct assessment (Gradel, Thompson, & Sheehan, 1981; Sexton et al., 1984). Parents can also help prepare children for test-based assessment activities, and can alert the examiner to any unusual qualities pertinent to the assessment process. In some instances, parent involvement in test-based assessment can help obtain the child's optimal level of performance. Finally, parents may be able to contribute important information and observations about behaviors not measured or observed during the assessment activities. Such interaction with parents fosters a cooperative relationship and sets the stage for consultation, if intervention planning is recommended.

Provide Supportive Services

When a young child is identified as having special needs, most parents will be concerned. Some may express shock, denial, or anger (Boehm & Sandberg, 1982; Spidel, 1981). Examiners should anticipate these understandable reactions and provide appropriate support. They may establish a professional relationship with the parent or arrange other mechanisms for support, such as a parent support group or conferences with teachers and other school personnel.

Essential Components

Regardless of the assessment approach, it is important to incorporate background or historical information with a comprehensive sampling of behavior domains (Paget & Nagle, 1986).

Background Information

Background or historical information can supplement assessment data derived via observation or test-based assessment in important ways (Paget & Nagle, 1986). For example, the experiences of very young children can dramatically affect their responses to the examiner or the test situation. Children who have been hospitalized frequently, for instance, may be apprehensive or frightened by a stranger in an institutional setting. Conversely, preschool youngsters who have been engaged in speech therapy may be confident and at ease when entering the testing situation.

The following types of background information may be relevant to early childhood assessment:

Family characteristics. The characteristics of the child's home environment can be important to development (Wilson, 1986). Socioeconomic status and parental education levels, for example, correlate highly with performance measures (Schakel, 1986). However, within a given socioeconomic status or educational grouping, a variety of important qualitative differences (e.g., family cohesiveness, communication patterns, provision of learning experiences) affect children's adjustment to school. In addition, evaluating the potential ability of parents to act as change agents for their children can be an important component of intervention planning.

Medical history. Medical events and conditions can affect children's performance and influence conclusions derived from observation and test-based assessment (Hayman, 1983). Obtaining a thorough medical history from the parent, as well as requesting pertinent information from specialists, can assist in providing a comprehensive assessment.

Developmental history. Some young children have uneven patterns of development. Some have normal growth up to a certain age, followed by a plateau or even a regression in skills. Others exhibit specific deficits in one area such as motor skills or language. Related information, which can be obtained from a thorough developmental history provided by the parent, can be helpful in interpreting other data.

Educational history. More and more children have early, educationally relevant experiences such as preschool, day care, speech therapy, or other group experiences (e.g., church school, library story hours, play groups). The examiner should gather information about these activities because they may influence the youngster's adjustment and response to formal testing (Schakel, 1986).

Behavior Domains

When planning a comprehensive assessment, examiners should sample a broad range of behaviors. The following domains are generally considered essential components of a comprehensive early childhood assessment (Boehm & Sandberg, 1982; Paget & Nagle, 1986):

- Intellectual and cognitive
- Speech and language
- Motor
- Sensory
- Preacademic and academic
- Social and emotional
- Adaptive

Examiners should be aware, however, that many of these domains are often inextricably related in young children, and that valid measurement of discrete constructs may be impossible. Other assessment strategies, which are needed for intervention design, are discussed in Chapter 5.

Sources of Data

As mentioned previously, an important objective of early childhood assessment is to sample many different types of behavior in many different ways. In keeping with this objective, diverse data bases are essential. The information sources listed below should be considered.

Parent Interviews

In addition to providing critical information that only a parent may be able to report (e.g., historical and family data), the parent interview can provide insights about the child within the family context (Wilson, 1986).

Parent Questionnaires

Parents may be asked to complete a developmental inventory or questionnaire. Such data can be compared with information from the direct assessment of the child to form a comprehensive view of behavior (Colligan, 1976, 1981).

Teacher Interviews

Early childhood professionals often make important observations about children's behavior in the preschool or day-care setting. This information, which can be communicated during interviews, contributes to a complete assessment.

Teacher Checklists

Teachers can quantify their observations about a child by completing formal checklists of children's behavior.

Work Samples

Children's projects (e.g., artwork) may provide a mechanism for conveying valuable information about a child.

Observation

Structured observation in familiar settings (e.g., home, classroom, playground) allows the evaluator to observe behavior that may not be tapped by other devices. Examples include interaction with peers and adults, adaptability to settings, and spontaneous language.

Data From Other Professionals

Some young children have had involvement with other professionals such as physicians, therapists, Head Start teachers, or day care staff. By obtaining appropriate parent permission and communicating with professionals in these settings, important information can be included as part of the child's assessment.

Structured Testing

Structured test results may be the one component of a comprehensive evaluation most often incorporated in test-based and curriculum-based approaches to early childhood assessment. In addition to tapping knowledge and skills that may not be assessed through other means, testing provides an opportunity for observing the child's behavior in a structured context (Bracken, 1983).

Instrument Selection

Several variables, including those listed below, influence the selection of early childhood assessment instruments.

Reliability

Reliability refers to the accuracy of a measure, or the degree to which examiners can rely upon the score, i.e., trust that it is not due to chance alone (Goodwin & Driscoll, 1980). Every test has some degree of error, but a test that is characterized by too much error is said to be unreliable. Generally speaking, measures of young children's performance tend not to be as reliable as those designed for older youngsters and adults. Therefore, examiners should review instruments carefully and select those that are as reliable as possible.

Validity

Validity refers to the degree to which the instrument measures what it is purported to measure. For example, a test of receptive language that really does measure the construct or ability of receptive language and not other skills is said to be valid. Different ways to determine a test's validity include comparing results with scores derived from other measures given at the same time (concurrent validity) or at a later time (predictive validity). Respectable test validity is critical to a fair assessment of young children (Goodwin & Driscoll, 1980).

Standardization Characteristics

Early childhood professionals should consider several standardization features in choosing an instrument or procedure (Miller & Sprong, 1986). The normative population should be representative, particularly on demographic variables such as age, ethnicity, socioeconomic status, geographic region, and sex. The date of standardization should be as current as possible, and early childhood professionals should not use outdated instruments, as they may yield misleading results (e.g., Campbell, Siegel, Parr, & Ramey, 1986).

Assessment Mode

Frequently, professionals have a choice of more than one high-quality instrument to assess the same area or skill. In such instances, the mode or manner of assessment can be an important determining factor. Assessment mode refers to how the behavior is assessed (e.g., structured item, observation, parent or teacher report).

Mode also includes variations in the ways the child must respond. In choosing instruments, several different response modes are valuable to facilitate the goal of validating hypotheses across diverse measurement strategies and settings (Paget & Nagle, 1986). In addition, the response mode for structured items (e.g., requiring language or motor response) should maximize the child's favorable response (DuBose, 1981).

Appeal of Materials

Some assessment materials are more appealing to children than others. Typically, young children respond best when they can be actively involved in manipulating toys or tangible materials. Therefore, instruments that incorporate such techniques may be the most desirable.

Follow-up to Assessment

The completion of assessment activities should be viewed as the beginning of important interventions for children. Following the assessment, results should be communicated to parents and appropriate interventions provided. Other professionals should be kept informed, as appropriate. Finally, periodic reviews need to be scheduled.

Communicate Results to Parents

Parents should be provided a clear, straightforward explanation of the results of the assessment (Boehm & Sandberg, 1982). In consultation approaches to assessment, parents are directly involved in problem identification and resolution, and thus are knowledgeable about assessment results.

When other assessment approaches are used (e.g., curriculum-based, test-based), results of assessment must be conveyed to parents. Ideally, this will occur in a conference with one or both parents, the case coordinator or

case follower, and other members of the early childhood assessment team, as appropriate. Conferences should be scheduled at times that are convenient to parents, including evening hours.

An understandable, written summary of the assessment results for parents is a good practice. Professionals should encourage parents to seek clarification about the summary or other results of the assessment, and to contact them at a later date if questions arise.

In addition, as was mentioned earlier, parents will feel concerned when learning about a young child's special needs for the first time (Boehm & Sandberg, 1982). Professionals can help provide support, either personally or by linking parents with other resources.

Provide Appropriate Interventions

When the assessment confirms the presence of special learning needs, intervention is necessary. Through the use of intervention-based assessment data, appropriate strategies can be developed. (Chapter 5 describes assessment for intervention design in greater detail.) Well-designed early intervention can yield many positive benefits for children and their families including

- Enhancing developmental progress, as compared with children who are not afforded appropriate interventions (Casto & Mastropieri, 1986; Guralnick & Bricker, 1987; Reynolds, Egan, & Lerner, 1983)
- Improving school performance, as demonstrated by such variables as fewer grade retentions, better academic test scores, and a reduction in numbers of school dropouts (Lazar & Darlington, 1978; Schweinhart & Weikart, 1980)
- Enhancing community adjustment, as reflected by a higher proportion of graduates obtaining post-secondary education, fewer arrests, and higher lifetime earnings (Schweinhart & Weikart, 1980)
- Reducing the total number of years of special education required, resulting in a significant cost savings (Garland, et al., 1981; Lazar & Darlington, 1978)

Appropriate interventions for young children and their families can be provided in a variety of settings, as illustrated in Figure 1 on page 8.

Communicate With Other Professionals

In some cases, young children have been or will be involved with professionals or specialists outside the school. These persons may benefit from knowing assessment results. Permission to release information must be obtained prior to the transfer of any data, and appropriate confidentiality measures must apply. Communication with other professionals often leads to consultation about problem resolution, an important step in intervention.

Conduct Periodic Reviews

In the case of young children, periodic reviews of progress are essential because change can occur rapidly, particularly following the introduction of appropriate interventions. As conceptualized in this *Manual*, screening and assessment activities need to be integral parts of early childhood education programs so that individual learning needs can be identified and progress

monitored. Teachers need to recognize changes in young children that signal a need for periodic reviews and regard these reviews as a type of ongoing identification of special learning needs.

Limitations to Assessment

Assessment is designed to provide a comprehensive view of the child's current performance in order to develop appropriate interventions. To achieve this objective, knowledge of intervention research and a range of valid treatment approaches are necessary. When interpreting early childhood assessment data, note the cautions listed below.

Limited Predictability

Particularly in the case of preschool children, assessment data should be viewed as a snapshot: a picture in time of the child's performance. That performance changes continually, and it is not a good practice to use early assessment data to predict future performance, since the validity of these predictions is not very high (Rogers, 1986). Making predictions about a child's subsequent adjustment is generally more valid for youngsters who are older and for clinical populations (i.e., those functioning at the extremes of the distribution) (Dunst & Rheingrover, 1981).

Special Education Eligibility

In order for young children to be enrolled in special education programs or receive related services, eligibility must be determined. Making such determinations in young children is frequently difficult for the following reasons:

The expression of handicapping conditions may be very different in preschoolers than in older children (Rogers, 1986).

Normal developmental variability complicates the interpretation of certain behaviors (Boehm & Sandberg, 1982; Dunst & Rheingrover, 1981).

Differentiating between a handicapping condition and inexperience may be difficult in young children.

Required measurement areas (e.g., academic performance) may not be developed in young children.

Appropriate test instruments may be scarce in some areas of functioning (Boehm & Sandberg, 1982).

Determining whether handicapping conditions of preschool children have an adverse effect on educational performance is difficult.

The Ohio Department of Education, in cooperation with field-based planning groups, is developing guidelines for determining special education eligibility for the early childhood population. These guidelines will be disseminated to all school districts following adoption by the State Board of Education.

Applying diagnostic labels to young children is a serious matter, whether these labels are special education categories or clinical terms (Leigh, 1983).

Nonetheless, diagnostic labels are sometimes necessary in order for children to receive appropriate services. In addition, some parents find diagnostic labels helpful in understanding their children's behavior. However, preschool children sometimes change dramatically from year to year, and diagnostic labels may restrict opportunities available to children or result in bias or self-fulfilling prophecies.

Suggested practices with regard to applying diagnostic labels include the following:

- Labels should not be employed indiscriminately to generate funds.
- The label, its meaning, and the reasons why it applies to the child should be conveyed clearly to parents. Many synonyms are used for the same diagnostic category. For this reason, professionals should make efforts to see that parents clearly understand the diagnostic or categorical labels applicable to their children and the implications of these labels.
- Professionals should emphasize that the diagnostic label represents their *current* judgment, and except in rare cases (e.g., specific medical conditions), the label should not be interpreted as being permanent.
- Use of a diagnostic label should be reviewed regularly, and changed as appropriate.

Evaluation of Assessment Activities

By evaluating assessment procedures and instruments periodically, school districts can make appropriate modifications to improve the assessment process. The following strategies are suggested:

- Parents can be surveyed to provide feedback about parent-professional communication and about the thoroughness and timeliness of the assessment process.
- Teachers and other providers of intervention can be surveyed or interviewed to provide data about the usefulness of assessment reports.
- Peer reviews by colleagues in other school districts or community agencies may assist school personnel in enhancing the quality of diagnostic assessments.
- Systematic research to investigate the relationship between specific assessment devices and diagnostic decisions can facilitate instrument selection.

Chapter 5. Assessment for Intervention Design

Rationale

Although the primary purpose of this *Manual* is to assist districts in developing and implementing procedures for *identifying* children's individual learning needs, it is also important to incorporate assessment measures and procedures that relate directly to the design of appropriate intervention strategies. The reason is that traditional assessment approaches sometimes yield data that are not relevant to the design of intervention strategies.

Assessment for intervention design should be guided by factors that are likely to facilitate change. These factors are often different from those revealed by traditional measures. This chapter (adapted from Barnett & Carey, in press) provides a brief discussion of the major facets of assessment related to intervention design. Furthermore, legal, ethical, and other pertinent issues should be considered as professionals implement interventions appropriate to the needs of young children and their families.

Ecological Assessment

Behaviors, person variables, and environmental factors all have potential importance in assessment and intervention design. The ecological perspective maintains that problems can be resolved through a range of alternative strategies: by modifying the problem behavior, by changing the expectations of persons encountering the problem, or by altering situations. Ecological assessment thus provides a broad context for understanding adjustment and planning for interventions. Additionally, this approach draws attention to analyzing strengths, healthy adaptive behaviors, and coping strategies.

In ecological assessment, the professional attempts to understand the network of relationships within and between settings. A general principle is that problems do not necessarily belong to individuals. They are shared by child, family, school, and community systems. Two, and sometimes three, factors are of primary importance in planning interventions using an ecological perspective: (a) a parent, guardian, or care-giver relationship characterized as warm, reciprocal, guiding, and supportive; (b) a functional learning environment within the family; and, when necessary, (c) a flexible continuum of educational and support services for children that stresses essential preacademic skills and social adaptation. With the first factor, someone from the community may need to fulfill the positive support role.

The links between ecological assessment and behavioral assessment encompass professional practice decisions related to *where* to intervene (e.g., home versus school), *when, with whom* (e.g., parent, teacher, peers), *how*, and toward *what* target behaviors. Typically, the most powerful agents of change are the persons who interact with the child most intensively.

Curriculum-Based Assessment

The most direct approach to preschool educational assessment is the systematic, ongoing evaluation of children in a well-constructed curriculum (Bagnato et al., 1986). Then, if children do not progress adequately with teacher attempts at intervention, they are referred for consultative services. Curriculum-based measurement reveals the skill mastery of individual children and their rate of progress in comparison to that of peers.

An ecologically based curriculum for young children includes the continuous assessment of skill development in a way that is linked to teaching

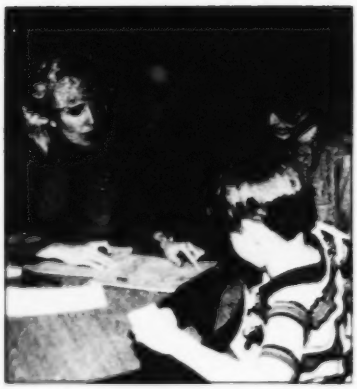
strategies and peer behavior. Alternative, empirically based teaching techniques should match instruction to the child's individual needs. Assessment should mirror the classroom ecology (Fuchs & Fuchs, 1986), or in other words, the interrelationships of children and the instructional environment.

Moreover, classroom assessments should include observations of important social behaviors. For many high-risk and handicapped children, "preattending" skills are an important aspect of assessment and intervention. Such skills may include looking at the materials, listening, and sitting quietly during instruction (Etzel, LeBlanc, Schilmoeller, & Stella, 1981).

Teacher and Parent Consultation

Data from test batteries may be insufficient for making intervention decisions. Furthermore, the nature of early childhood education necessitates specific and often ongoing resolutions. As a result, systematic appraisal of the child's environment and problem-solving procedures based on a reciprocal partnership among the child, parents, and school personnel are critical in developing appropriate interventions.

Consultation-based services focus on giving needed assistance to children's care-givers rather than to children directly. The relationship is based on openness and trust, and participants are given equal status. Parents and teachers are considered as "experts" concerning their observations of, knowledge of, and interactions with the child. Other professionals (e.g., mental health) demonstrate expertise in the process of problem solving. The active participation of care-givers is critical to the success of problem solving.



When using consultation-based practices, the following characteristics and activities are present: (a) a collaborative orientation; (b) mutual agreement on problem definition and clarification; (c) solution generation and analysis; (d) mutual agreement on assessment, intervention plans, and roles; (e) a trial period for interventions; (f) evaluation; and (g) replanning interventions or terminating them if outcomes are successful.

In summary, a guiding principle of consultation-based interventions is mutual agreement on goals and intervention strategies through collaborative efforts. Strategies to support this principle are discussed next.

Interventions vary in their degree of acceptability to participants. Research trends support naturalistic interventions to increase the likelihood of acceptance. Assessment plans can be directed to identify a range of treatment options based on research and (a) naturally occurring strategies that are likely to be successful with changes, guidance, and feedback, or (b) interventions that may be acceptable for individual parenting and teaching styles.

Interviews and observations may reveal that care-givers use strategies that are consistent at least in some ways with valid interventions. However, they may not be aware of the importance and logical extensions of their behaviors —factors that can be taught or reinforced.

The goals of prereferral interventions include (a) providing structured support and assistance to teachers (and parents) in order to deliver instruction and services for a broad range of children's needs, and (b) reducing the number of inappropriate referrals for multifactored evaluations and subsequent overly restrictive placements. If the teacher's attempts at resolution are unsuccessful, a specialist may be consulted for assistance.

A more formal model of consultation is exemplified by intervention assistance teams. These teams are problem-solving groups that help teachers (and parents) design and implement intervention strategies for children having learning or behavior problems. Such groups seek creative ways to maximize the use of available resources (*Intervention Assistance Teams*, 1985).

Intervention assistance teams focusing on the needs of young children can provide the following potential benefits:

Assistance to teachers in varying instructional strategies to promote children's competence in basic skills

A structured method of addressing the special learning needs of individual children

A method of coordinating intervention strategies among multiple care-givers

An opportunity to involve parents in the development and implementation of intervention strategies for addressing their child's specific needs

Improved transition of children from one service delivery system to another (e.g., preschool to school-age programs)

Fewer inappropriate referrals for assessment, leaving more time to process appropriate referrals more expediently

More effective integration of handicapped children in the least restrictive environment

Intervention assistance teams can also enable practitioners and parents to become more discriminating in determining which children are handicapped *and* in need of special education under the provisions of Public Laws 94-142 and 99-457. This may be of particular value for developmentally delayed or at-risk children who received early intervention services under Title I of Public Law 99-457 at two years of age. As three-year-olds, they may not be eligible to receive preschool special education and related services under Title II of Public Law 99-457.

Team members can help ensure that children and their families continue to receive needed services that may be available through other service-providing agencies or through other programs and services offered by the school district. For more information, contact the special education regional resource center in your area or the Division of Educational Services, Early Childhood Section, of the Ohio Department of Education.

Sequential Decisions

In contrast to diagnostic or classification decisions, helping strategies typically involve sequential decisions. Target behavior selection and intervention involve a progressive process (Bandura, 1969; Kanfer, 1985), whereby plans are maintained, modified, or refined over time. A process of sequential decisions is used to revise plans as needed. Plans can be made to monitor troublesome behaviors even when tentative decisions are made *not* to intervene. The results of well-conducted interventions directly aid decisions about subsequent changes in educational programs. Successful interventions may alter the need for classification decisions.

Target Behavior Assessment

Behavioral assessments do not automatically reveal targets for intervention. Subsequent decisions are necessary. Target behaviors may include: (a) changes in parent, teacher, and peer behaviors; (b) new or enhanced skills; and (c) strategies for increased self-management.

Frameworks for Selection

Generally, target behaviors are selected based on a combination of factors including research, situational analysis, and problem-solving steps. The points listed below summarize important frameworks for target behavior selection.

- **Determine physically dangerous behaviors.** Behaviors that threaten lives, either the child's or others, have the highest priority. With children, the initial goal may be to provide a safe environment while behaviors of concern are monitored and interventions are planned. Examples of dangerous behavior include abusive or neglectful care-giver relationships, unsafe home and community conditions, and self-inflicted injuries. When the behavior of parents or care-givers is in question, attention should be paid to the way they monitor the child and meet his or her needs and to the parents' level of motivation due to such factors as unemployment, depression, or substance abuse.

- **Identify other behaviors with potentially damaging consequences.** Behaviors that severely interfere with family functioning through damaging social or economic consequences also need to be evaluated and receive high priority for intervention (Kanfer, 1985).

- **Assess multiple resources for reaching treatment goals.** Some interventions for certain target behaviors require the availability of teachers, other professionals, and parents. Baby-sitters, siblings, and extended family members can also contribute to intervention plans. Teachers may require planning time and support services, and parents may need baby-sitting or transportation.

- **Expand positive behaviors.** Target behaviors should specify desirable goals, rather than inappropriate behaviors, and thus lead to appropriate resources and plans of action (Hawkins, 1986; Mash & Terdal, 1981).

- **Plan for sequences of behavioral change.** Some target behaviors may necessitate changes in other behaviors, primarily because target behaviors may be more likely to influence later, more significant or "pivotal" behaviors (Kanfer, 1985). Behaviors that compromise a normal developmental progression, and that may result in "cumulative deficits" if not mastered, should also be given high priority (Mash & Terdal, 1981).

Sequences of behaviors can be identified through developmental studies, task analysis, or comparisons of skilled versus nonskilled performances on specific tasks.

- **Estimate success rates of the possible interventions.** Each behavior selected for change must be appraised realistically with respect to intervention methods; the behavior change agent's capabilities; available resources; and the impact of the intervention strategy on peers, teachers, and family members. Probable success rates can also be determined by reviewing interventions described in the literature.

- **Assess for multiple and broad-based motivational issues.** In addition, the care-givers motivation needs to be considered. Joint or collaborative participation may enhance acceptance of the intervention plans. Children, care-givers, and other participants judge whether interventions are appropriate and reasonable. A range of intervention alternatives and change agents may need to be identified for individual children due to motivation and acceptance factors.

- **Assess for self-regulation and environmental regulation.** Artificial means of control are often linked to low long-term success (Kanfer, 1985). Strategies for self-regulation, and "entry into the natural reinforcement community of the child," should be a part of assessment-intervention plans (Baer & Wolf, 1970; Mash & Terdal, 1982; Stokes & Osnes, 1986). Care-givers need to know how to guide and reinforce children's behavior in the natural setting. For example, verbal and nonverbal communication skills may be taught in ways that will engage children in the activities that surround them.

- **Assess side effects.** Interventions may have positive and negative outcomes. The specified target behaviors, along with factors within the social environment, may be altered unintentionally, for better or worse. Decision-makers should evaluate potential negative outcomes of ineffective interventions for children, families, and teachers. Selecting appropriate target behaviors may increase the likelihood of positive side effects.

Pertinent Research

Parents, teachers, school administrators, and society at large generally expect that intervention decisions, despite the difficulties, will be guided by pertinent research. Brief descriptions of three major ways that empirical information can contribute to practice are listed below.

Identify Syndromes

First, examiners should determine any research-supported correspondence between the child's behavior and syndromes since identifying syndromes can help determine the adequacy of assessment and intervention plans. For example, assessment and intervention plans for children who exhibit conduct disorders may need to focus on parental behaviors and roles, because evidence suggests a reciprocal relationship between parents' behavior and children's conduct disorders.

Consider Empirically Based Interventions

Second, valid and replicated intervention strategies (e.g., those for noncompliance) can be successfully applied to similar behavior problems.

Child characteristics, environmental settings, treatment components and alternatives, magnitude of expected changes, and the observation systems and measures described in the literature can be evaluated to determine their potential relevance to individual cases. Gaps in research regarding interventions with certain child behaviors are also important to professionals and other decision-makers.

Evaluate Interventions

Third, chosen interventions require evaluation. Time-series methods based on single case designs are appropriate for this function. Such methods generally have three facets: (a) measures of stability, level, and trend of behavior; (b) an introduction of the intervention while maintaining the measurement procedures; and (c) the evaluation of the intervention over substantial time periods with respect to intervention goals (Barlow, Hayes, & Nelson, 1984).

Graphic and Technical Aids

Graphic and technical aids are necessary to help overcome the natural limitations of interpreting complex assessment and intervention information. Furthermore, information needs to be structured, and new information placed appropriately within the structure. Examples of technical aids are found in ecological assessment techniques used to represent the child's environment (e.g., Cantrell & Cantrell, 1985), and in time-series methods used to monitor behavior trends and the effects of interventions (e.g., Barlow et al., 1984).

One technique is the use of the eco-map, an example of which is presented in Figure 6. Following guidelines used by Hartman (1978), the circles represent females, and the squares represent males. Pertinent ages are placed inside the symbols. Relationships are depicted by lines connecting individuals and settings. Dashes indicate tenuous relationships, while barriers or conflicting relationships are illustrated through the use of Xs.

In the example, a three-year-old boy is experiencing adjustment problems in his preschool program. He has tenuous relationships with his eighteen-year-old mother and his grandfather. While his mother is employed, the family situation is disharmonious. His relationship with his grandmother represents his only present source of stability. Except for employment, his mother is also "cut off" from sources of emotional support.

The eco-map can serve as (a) an assessment technique to be used by professionals and clients, (b) a planning tool to examine potential resources and helping strategies, (c) a recording and communication device, and (d) a measure of change (Hartman, 1978).

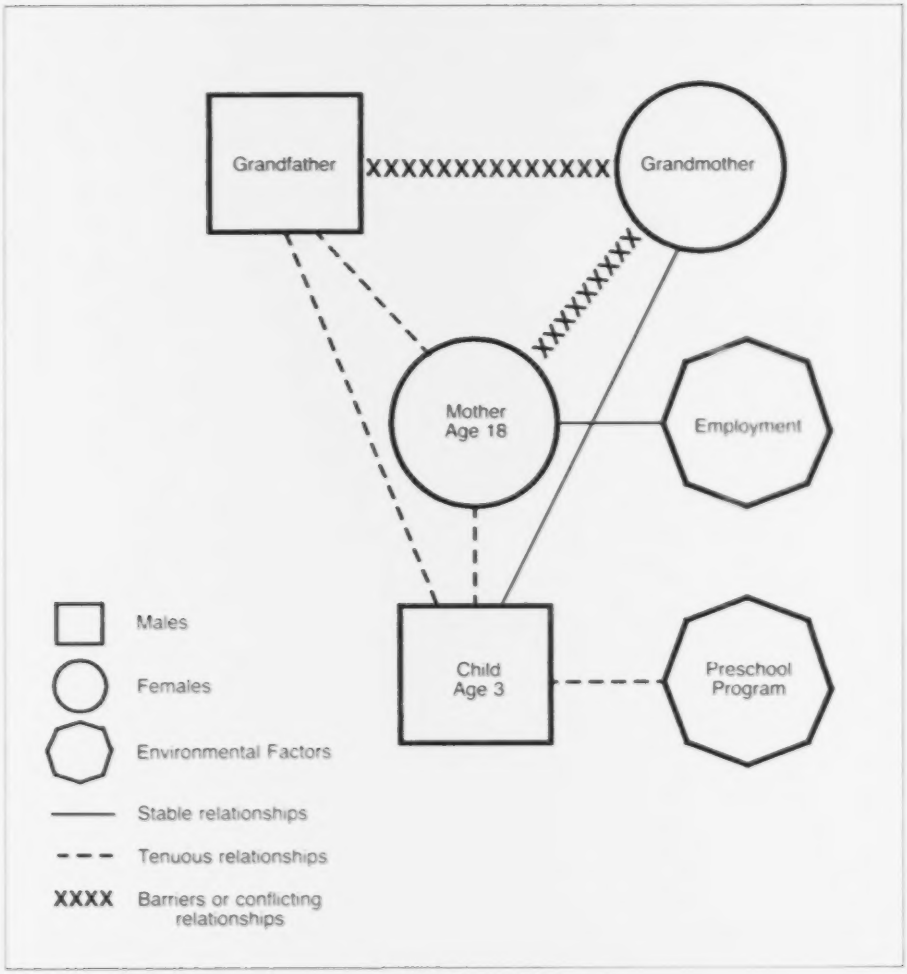
Time-series methods subsume case studies, and add the repeated measurement of significant behaviors of interest and the specification and evaluation of an intervention (Barlow et al., 1984). The methods are appropriate for both skill acquisition and problem behaviors.

Professional Considerations

Behavioral consultants should be aware of their own value systems, behaviors, and competencies. They should adhere to well-established conventions for assessment and intervention design. They should also follow the ethical principles of major professional organizations representing educational and

mental health services to children. Beyond the technical considerations, the major principles are developing plans by mutual agreement and evaluating the effectiveness of interventions.

Figure 6. An Ecological Approach to Assessment: The Eco-Map



Chapter 6. Summary

What Has Changed

Public school involvement in early education is growing rapidly. New responsibilities for schools to identify children's individual learning needs and to provide appropriate learning experiences are constantly being added. Research supports the importance of early identification and assessment of children's special needs, including those of handicapped and gifted children. Providing appropriate, early learning experiences significantly improves children's educational potential.

Furthermore, the demographics of American public schools are changing dramatically. Educators are working with considerably more children from single-parent families, from low-income families, from "minority" families, and from families where English is not the primary language. Children at an educational disadvantage represent an increasing proportion of our youth (Children's Defense Fund and The Junior League of Ohio, 1987; National Governors' Association, 1986).

Early childhood education is receiving much more attention from professional educators, parents, and others who care about the future of children. Major research studies indicate that good preschool programs help prevent school failure. These studies show that quality preschool programs can have both short-term and long-term effects. They can improve student performance in school from the elementary through the secondary level. The achievement level of first-graders is higher, there is less grade repetition, and fewer special education classes are needed.

Quality programs have also been shown to reduce the high school dropout rate, increase the college attendance rate, increase employment, and reduce the welfare and crime rates after high school. Quality preschool programs are, therefore, cost-effective in the long term (Brown, 1978; Karnes, Hodgins, and Teska, 1969; Lazar, Darlington, Murray, Royce, and Snipper, 1982; Weikart, Bond, and McNeir, 1978).

What Is Needed

For the children's sake and the nation's well-being, new initiatives must be launched to prepare all students for the competitions of the twenty-first century. The provision of quality preschool programs has been widely recognized as a major initiative in response to this need. The extent to which our preschool programs are successful in achieving their intended goals will depend on the extent to which they provide "appropriate" learning experiences.

The careful design, implementation, and monitoring of screening and assessment activities will be necessary to meet the needs of individual children and their families. The guidance provided within this document is intended to assist with this process. This is, however, only a beginning.

Effective early identification will depend on the expertise of those involved in the process, and their willingness to pursue new knowledge. Policy relating to the field of early childhood education is still in its infancy. The upcoming years offer significant opportunity to promote effective programming for young children.

Chapter 7. Resources for Early Childhood Personnel

A number of professional associations and related organizations provide services of interest to school personnel who are planning or implementing early childhood screening and assessment activities. The following lists, although not exhaustive, reflect professional, advocacy, and governmental interests.

National Associations and Organizations

American Psychological Association
1200 Seventeeth Street, N.W.
Washington, DC 20036

American Speech, Language, and Hearing Association
10801 Rockville Pike
Rockville, MD 20852

Association for Childhood Education International
11141 Georgia Avenue, Suite 200
Wheaton, MD 20902

Carolina Institute for Research on Early Education for the Handicapped
Frank Porter Graham Child Development Center
University of North Carolina
Chapel Hill, NC 27514

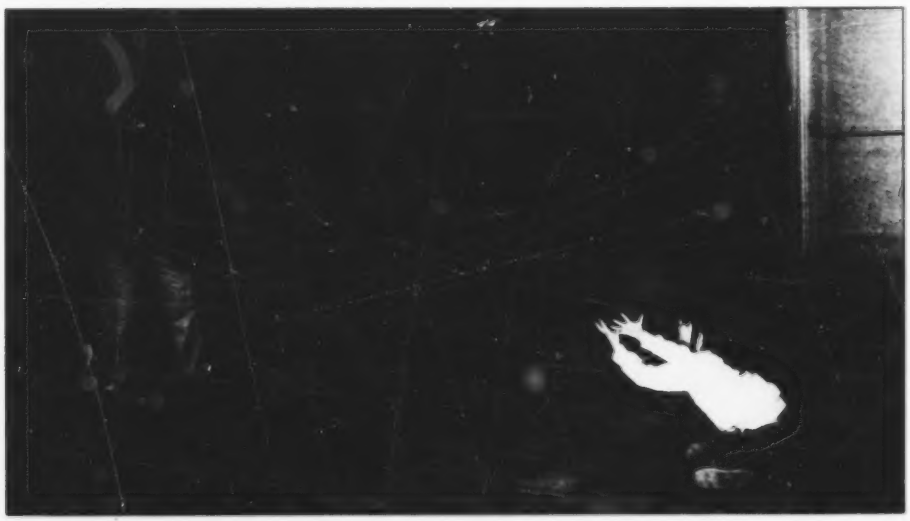
Council for Exceptional Children
Division of Early Childhood
1920 Association Drive
Reston, VA 20091

Early Intervention Research Institute
Developmental Center for Handicapped Persons
Utah State University
Logan, UT 84322-6870

Head Start—Region V Office
Administration for Children, Youth, and Families
OHDS/DH & HS, 13th Floor
300 South Wacker Drive
Chicago, IL 60606

National Association for the Education of Young Children
1834 Connecticut Avenue, N.W.
Washington, DC 20009

National Association of School Psychologists
1511 K Street, N.W.
Washington, DC 20005



State Associations and Organizations

Children's Defense Fund—Ohio
790 Stone Avenue
Columbus, OH 43205

Ohio Association for the Education of Young Children*

Ohio Association of Child Caring Agencies
360 South Third Street
Columbus, OH 43266

Ohio Association of Elementary, Kindergarten, and Nursery Educators*
(An affiliate of the Ohio Education Association)

Ohio Association of Head Start Directors*

Ohio Coalition for the Education of Handicapped Children
933 North High Street, Suite 106
Worthington, OH 43085

Ohio Department of Education
Division of Educational Services
Early Childhood Section
65 South Front Street, Room 202
Columbus, OH 43266-0308

Ohio Department of Education
Division of Special Educaton
933 North High Street
Worthington, OH 43085-4087

Ohio Department of Education
Division of Vocational and Career Education
65 South Front Street, Room 907
Columbus, OH 43266-0308

Ohio Department of Health
Division of Maternal and Child Health
246 North High Street, P. O. Box 118
Columbus, OH 43266-0588

Ohio Department of Human Services
Division of Family and Children's Services
30 East Broad Street
Columbus, OH 43266-0423

Ohio Department of Mental Health
Division of Childen's and Educational Services
30 East Broad Street, 11th Floor
Columbus, OH 43266-0414

Ohio Department of Mental Retardation and Developmental Disabilities
Division of MR/DD Programs
30 East Broad Street, 12th Floor
Columbus, OH 43266-0415

Ohio Federation of the Council for Exceptional Children
Division of Early Childhood*

Ohio School Psychologists Association
750 Brooksedge Boulevard
Westerville, OH 43081-4914

Ohio Speech and Hearing Association*

*The address and contact person vary depending on the association's current slate of officers. For further information, contact the Early Childhood Section of the Ohio Department of Education.

Special Education Regional Resource Centers in Ohio

Ohio has 16 special education regional resource centers (SERRCs) and one statewide center that provide technical assistance to school personnel in the development and implementation of early childhood screening and assessment activities. A list of these centers, together with the counties served, follows:

Central Ohio SERRC
470 East Glenmont Avenue
Columbus, OH 43214
(614) 262-4545
Counties Served: Delaware, Fairfield, Franklin, Licking, Madison, Pickaway, Union

Cuyahoga SERRC
14605 Granger Road
Maple Heights, OH 44137
(216) 587-5960
County Served: Cuyahoga

East Central SERRC
152 Second Street, NE
New Philadelphia, OH 44663
(216) 343-3355
Counties Served: Belmont, Carroll, Coshocton, Guernsey, Harrison, Holmes, Jefferson, Muskingum, Noble, Tuscarawas

East Shore SERRC
7900 Euclid-Chardon Road
Kirtland, OH 44094
(216) 256-8483
Counties Served: Geauga, Lake

Hopewell SERRC
5799 West New Market Road
Hillsboro, OH 45133
(513) 393-1904
Counties Served: Adams, Brown, Clinton, Fayette, Highland

Lincoln Way SERRC
1450 West Main Street
Louisville, OH 44641
(216) 875-2423
Counties Served: Columbiana, Stark, Wayne

Miami Valley SERRC
1830 Harshman Road
Dayton, OH 45424
(513) 236-9965
Counties Served: Clark, Darke, Greene, Miami, Montgomery, Preble

Mid-Eastern Ohio SERRC
2226 Twenty-third Street
Cuyahoga Falls, OH 44223
(216) 929-6634
Counties Served: Medina, Portage, Summit

North Central Ohio SERRC
2200 Bedford Avenue
Mansfield, OH 44906
(419) 747-4808
Counties Served: Ashland, Crawford, Knox, Marion, Morrow, Richland, Wyandot

North East Ohio SERRC
409 Harmon Street, NW
Warren, OH 44483
(216) 394-1558
Counties Served: Ashtabula, Mahoning, Trumbull

Northern Ohio SERRC
218 North Pleasant Street,
Oberlin, OH 44074
(216) 775-2786
Counties Served: Erie, Huron, Lorain

Northwest Ohio SERRC
10142 Dowling Road, RR#2
Bowling Green, OH 43402
(419) 833-6761
Counties Served: Defiance, Fulton, Hancock, Henry, Lucas, Ottawa, Paulding, Putnam, Sandusky, Seneca, Van Wert, Williams, Wood

Pilasco-Ross SERRC
411 Court Street
Portsmouth, OH 45662
(614) 354-4526
Counties Served: Lawrence, Pike, Ross, Scioto

Southeastern Ohio SERRC
507 Richland Avenue
Athens, OH 45701
(614) 594-4235
Counties Served: Athens, Gallia, Hocking, Jackson, Meigs, Monroe, Morgan, Perry, Vinton, Washington

Southwestern Ohio SERRC
415 Herman Street
Cincinnati, OH 45219
(513) 241-8641
Counties Served: Butler, Clermont, Hamilton, Warren

West Central Ohio SERRC
RR#6, Box A-3,
North Dixie Highway
Wapakoneta, OH 45895
(419) 738-9224
Counties Served: Allen, Auglaize, Champaign, Hardin, Logan, Mercer, Shelby

Ohio Resource Center for Low Incidence and Severely Handicapped (ORCLISH)
470 East Glenmont Avenue
Columbus, OH 43214
(614) 262-6131
Counties Served: All counties

Chapter 8. Reference List

Alpern, G. D. "Measurement of 'Untestable' Autistic Children." *Journal of Abnormal Psychology*, 72 (1967), pp. 478–486.

Baer, D. M., & M. M. Wolf. "The Entry Into Natural Communities of Reinforcement." *Control of Human Behavior, Vol. 2: From Care to Prevention*, pp. 319–324, eds. R. Ulrich, T. Stachnik, & J. Mabry. Glenview, IL: Scott, Foresman, & Co., 1970.

Bagnato, S. J.; J. T. Neisworth; & A. Capone. "Curriculum-Based Assessment for the Young Exceptional Child: Rationale and Review." *Topics in Early Childhood Special Education*, 6 (2) 1986, pp. 97–110.

Bailey, E. J., & D. Bricker. "The Efficacy of Early Intervention for Severely Handicapped Infants and Young Children." *Topics in Early Childhood Special Education*, 4 (3) 1984, pp. 30–51.

Bandura, A. *Behavior Modification*. Englewood Cliffs, NJ: Prentice-Hall, 1969.

Barlow, D. H.; S. C. Hayes; & R. O. Nelson. *The Scientist-Practicioner: Research and Accountability in Clinical and Educational Settings*. New York: Pergamon, 1984.

Barnett, D. W., & K. T. Carey. "Intervention Design for Young Children: Assessment Concepts and Procedures." *The Psychoeducational Assessment of Preschool Children*, 2nd edition, ed. B. A. Bracken. New York: Grune & Stratton, in press.

Barnett, D. W., & K. D. Paget. "Alternative Service Delivery in Preschool Settings: Practical and Conceptual Foundations." *Alternative Educational Delivery Systems: Enhancing Instructional Options for All Students*, eds. J. Graden, J. Zins, & M. Curtis. Washington, DC: National Association of School Psychologists, 1988, pp. 291–308.

Boehm, A. E., & B. R. Sandberg. "Assessment of the Preschool Child." *The Handbook of School Psychology*, pp. 82–120, eds. C. R. Reynolds & T. B. Gutkin. New York: Wiley, 1982.

Bracken, B. A. "Observing the Assessment Behavior of Preschool Children." *The Psychoeducational Assessment of Preschool Children*, pp. 63–79, eds. K. D. Paget & B. A. Bracken. New York: Grune & Stratton, 1983.

Bricker, D. D. *Early Education of At-Risk and Handicapped Infants, Toddlers, and Preschool Children*. Glenview, IL: Scott, Foresman, & Co., 1986.

Brown, B. *Long-Term Gains From Early Intervention*. Boulder, CO: Westview Press, 1978.

Campbell, S. K.; E. Siegel; C. A. Parr; & C. T. Ramey. "Evidence for the Need to Renorm the Bayley Scales of Infant Development Based on the Performance of a Population-Based Sample of 12-Month-Old Infants." *Topics in Early Childhood Special Education*, 6 (2) 1986, pp. 83–96.

Cantrell, M. L., & R. P. Cantrell. "Assessment of the Natural Environment." *Education and Treatment of Children*, 8 (1985), pp. 275–295.

Casto, G., & M. A. Mastropieri. "The Efficacy of Early Intervention Programs: A Meta-analysis." *Exceptional Children*, 52 (1986), pp. 417–424.

Children's Defense Fund and the Junior Leagues of Ohio. *Through the Eyes of Ohio's Children: A Legislative Factbook, 1987-88*. Columbus, OH: 1987.

Colligan, R. C. "Prediction of Kindergarten Reading Success from Preschool Report of Parents." *Psychology in the Schools*, 13 (1976), pp. 304–308.

Colligan, R. C. "Prediction of Reading Difficulty From Parental Preschool Report: A 3-Year Followup." *Learning Disability Quarterly*, 4 (1981), pp. 51–57.

Cross, L. & K. Goin (eds.). *Identifying Handicapped Children: A Guide to Casefinding, Screening, Diagnosis, Assessment, and Evaluation*. New York: Walker & Co., 1977.

Curtis, M., & J. Meyers. "Best Practices in School-Based Consultation." *Best Practices in School Psychology*, pp. 79–94, eds. A. Thomas & J. Grimes. Kent, OH: National Association of School Psychologists, 1985.

Deno, S. L. "Formative Evaluation of Individual Student Programs: A New Role for School Psychologists." *School Psychology Review*, 15 (1986), pp. 358–374.

DuBose, R. F. "Assessment of Severely Impaired Young Children: Problems and Recommendations." *Topics in Early Childhood Special Education*, 1 (2) 1981, pp. 9–21.

Dunst, D. J., & R. J. Rheingrover. "An Analysis of the Efficacy of Early Intervention With Organically Handicapped Children." *Evaluation and Program Planning*, 4 (1981), pp. 287–323.

Etzel, B. C.; J. M. LeBlanc; K. Schilmoeller; & M. E. Stella. "Stimulus Control Procedures in the Education of Young Children." *Behavior Modification: Contribution to Education*, pp. 3–57, eds. S. W. J. Bijou & R. Ruiz. Hillsdale, NJ: Erlbaum, 1981.

Fuchs, L. S., & D. Fuchs. "Linking Assessment to Instructional Interventions: An Overview." *School Psychology Review*, 15 (1986), pp. 318–323.

Garland, C.; N. W. Stone; J. Swanson; & G. Woodruff. *Early Intervention for Children With Special Needs and Their Families* (Contract No. 300-77-0508). Washington, DC: U.S. Office of Special Education, 1981.

Goodwin, W. L., & L. A. Driscoll. *Handbook for Measurement and Evaluation in Early Childhood Education*. San Francisco: Josey-Bass Publishers, 1980.

Gradel, K.; M. S. Thompson; & R. Sheehan. "Parental and Professional Agreement in Early Childhood Assessment." *Topics in Early Childhood Special Education*, 1 (2) 1981, pp. 31–39.

Guralnick, M. J., & D. D. Bricker. "The Effectiveness of Early Intervention for Children With Cognitive and General Developmental Delays." *The Effectiveness of Early Intervention for At-Risk and Handicapped Children*, pp. 115–173, eds. M. J. Guralnick & F. C. Bennett. Orlando, FL: Academic Press, 1987.

Hartman, A. "Diagrammatic Assessment of Family Relationships." *Social Casework*, October 1978, pp. 465–476.

Hawkins, R. P. "Selection of Target Behaviors." *Conceptual Foundations of Behavior Assessment*, pp. 331–385, eds. R. O. Nelson & S. C. Hayes. New York: Guilford, 1986.

Hayman, L. L. "Primary Health Care Aspects of Learning Problems in Young Children." *Topics in Early Childhood Special Education*, 5 (3) 1985, pp. 41–46.

Howell, K. W. "Direct Assessment of Academic Performance." *School Psychology Review*, 15 (1986), pp. 324–335.

Intervention Assistance Teams. Columbus, OH: Ohio Department of Education, 1985.

Kanfer, F. H. "Target Selection for Clinical Change Programs." *Behavioral Assessment*, 7 (1985), pp. 7–20.

Karnes, M. B.; A. S. Hodgins; & J. A. Teska. *Earlier Intervention: Effects of the Ameliorative Program Initiated With Three-Year-Old Children and Maintained for Two Years*. Washington, DC: U.S. Department of Health, Education and Welfare, 1969.

Kaufman, A. S. "The Importance of Basic Concepts in the Individual Assessment of Preschool Children." *Journal of School Psychology*, 16 (1978), pp. 207–211.

Keogh, B. K. & S. E. Daley. "Early Identification: One Component of Comprehensive Services for At-Risk Children." *Topics in Early Childhood Special Education*, 3 (3) 1983, pp. 7–16.

Lazar, I., & R. Darlington. *Lasting Effects After Preschool*. Washington, DC: Office of Human Development Services, U.S. Department of Health, Education & Welfare, 1978.

Lazar, I.; R. Darlington; H. Murray; J. Royce; & A. Snipper. "Lasting Effects of Early Education: A Report From the Consortium for Longitudinal Studies." *Monographs of the Society for Research in Child Development*, 47 (Serial No. 195), 1982.

Leigh, J. E. "Early Labeling of Children: Concerns and Alternatives." *Topics in Early Childhood Special Education*, 3 (3) 1983, pp. 1–6.

Lerner, J.; C. Mardell-Czudnowski; & D. Goldenberg. *Special Education for the Early Childhood Years*. Englewood Cliffs, NJ: Prentice Hall, 1981.

Lichtenstein, R., & H. Ireton. *Preschool Screening: Identifying Young Children With Developmental and Educational Problems*. Orlando, FL: Grune & Stratton, 1984.

Mash, E. J., & L. G. Terdal. *Behavioral Assessment of Childhood Disorders*, 2nd edition. New York: Guilford, 1988.

Meisels, S. J. *Developmental Screening in Early Childhood: A Guide*. Washington, DC: National Association for the Education of Young Children, 1985.

Meisels, S. J. "Uses and Abuses of Developmental Screening and School Readiness Testing." *Young Children*, 42 (1) 1987, pp. 4–6, 68–73.

Miller, L. J., & T. A. Sprong. "Psychometric and Qualitative Comparison of Four Preschool Screening Instruments." *Journal of Learning Disabilities*, 9 (1986), pp. 480–484.

National Governors' Association. *Time for Results: The Governors' 1991 Report on Education*. Washington, DC: 1986.

Paget, K. D. "The Individual Examining Situation: Basic Considerations for Preschool Children." *The Psychoeducational Assessment of Preschool Children*, pp. 51–61, eds. K. D. Paget & B. A. Bracken. New York: Grune & Stratton, 1983.

Paget, K. D., & R. J. Nagle. "A Conceptual Model of Preschool Assessment." *School Psychology Review*, 15 (1986), pp. 154–165.

Reynolds, L.; R. Egan; & J. Lerner. "Efficacy of Early Intervention on Preacademic Deficits: A Review of the Literature." *Topics in Early Childhood Special Education*, 3 (3) 1983, pp. 47–56.

Rogers, S. J. "Assessment of Infants and Preschoolers With Low-Incidence Handicaps." *Psychoeducational Evaluation of Children and Adolescents With Low-Incidence Handicaps*, pp. 17–39, eds. P. J. Lazarus & S. S. Strichart. New York: Grune & Stratton, 1986.

Sattler, J. M. *Assessment of Children*, 3rd edition. San Diego, CA: Author, 1988.

Schakel, J. A. "Cognitive Assessment of Preschool Children." *School Psychology Review*, 15 (1986), pp. 200–215.

Schweinhart, L. J., & D. P. Weikart. "Young Children Grow Up: The Effects of the Perry Preschool Program on Youth Through Age 15." *Monographs of the High Scope Educational Research Foundation*, No. 7. Ypsilanti, MI: High Scope, 1980.

Sexton, D.; J. H. Miller; & J. Y. Murdock. "Correlates of Parental-Professional Congruency Scores in the Assessment of Young Handicapped Children." *Journal of the Division for Early Childhood*, Summer 1984, pp. 99–106.

Spidel, J. "Involving Parents of the Exceptional Child." *Parents as Partners in Education: The School and Home Working Together*, pp. 273–312, ed. E. H. Berger. St. Louis: The C. V. Mosby Co., 1981.

Standards for Educational and Psychological Testing. Washington, DC: American Psychological Association, 1985.

Stokes, T. F., & P. G. Osnes. "Programming the Generalization of Children's Social Behavior." *Children's Social Behavior: Development, Assessment, and Modification*, pp. 407–443, eds. P. S. Strain, M. J. Guralnick, & H. M. Walker. Orlando, FL: Academic Press, 1986.

White, K. R. "Efficacy of Early Intervention." *The Journal of Special Education*, 19 (1985–86), pp. 401–416.

Weikart, D. P.; J. T. Bond; & J. T. McNeir. "The Ypsilanti Perry Preschool Project: Preschool Years and Longitudinal Results." *Monographs of the High Scope Educational Research Foundation*, No. 5. Ypsilanti, MI: High Scope, 1978.

Wilson, C. C. "Family Assessment in Preschool Evaluation." *School Psychology Review*, 15 (1986), pp. 166–179.

Wortham, S. C. *Organizing Instruction in Early Childhood: A Handbook of Assessment and Activities*. Boston: Allyn & Bacon, 1984.

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